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DECEMBER
VOL. XXXIV

Memory the 40 foot W. L. yawl of Robert N. Bavier, winner of the long distance race to Bermuda for two consecutive years. Memory carries a Kermoth engine for auxiliary power.

Photograph by M. Rosenfeld

MOTOR BOATING
119 West 40th St., New York

1924
NO. 6

Gold Cup Regatta in New York Next Summer

NEW YORK has already started plans for its big motor boat regatta to be held next summer early in September, under the direction of the Columbia Yacht Club. The principal yacht clubs of New York and Long Island Sound have assured the Columbia Yacht Club of their desire to co-operate in order to make the first annual New York Gold Cup Regatta the biggest water event which has ever taken place anywhere. A regatta committee made up of representatives of all metropolitan yacht clubs, the U. S. Power Squadrons, the Regatta Club and similar organizations has already been formed and has begun to function.

The contest for the American Power Boat Association Gold Cup will of course be the major event. This trophy is now held by the Columbia Yacht Club of New York having been won by Baby Bootlegger owned by Caleb Bragg, in the race at Detroit on August 30th. A number of challenges have already been received for next summer's race including one from Carl G. Fisher, representing the Miami Beach Yacht Club, one from Horace E. Dodge who will defend for the Columbia Yacht Club, one from the Buffalo Launch Club which has entered Curtiss Wilgold II, owned by J. A. Williams of Buffalo. No challenges have yet been received from the speed king, Gar Wood of Detroit, yet he has promised to send at least three boats to the New York Regatta.

A challenge has been received for the One-Mile Championship Trophy, from the R. C. R. C. This cup is now held by Gar Wood who won it in 1921 when Miss America II ran at a speed of 80.567 miles per hour. The one-mile championship event will be held at New York next summer during the Gold Cup Regatta.

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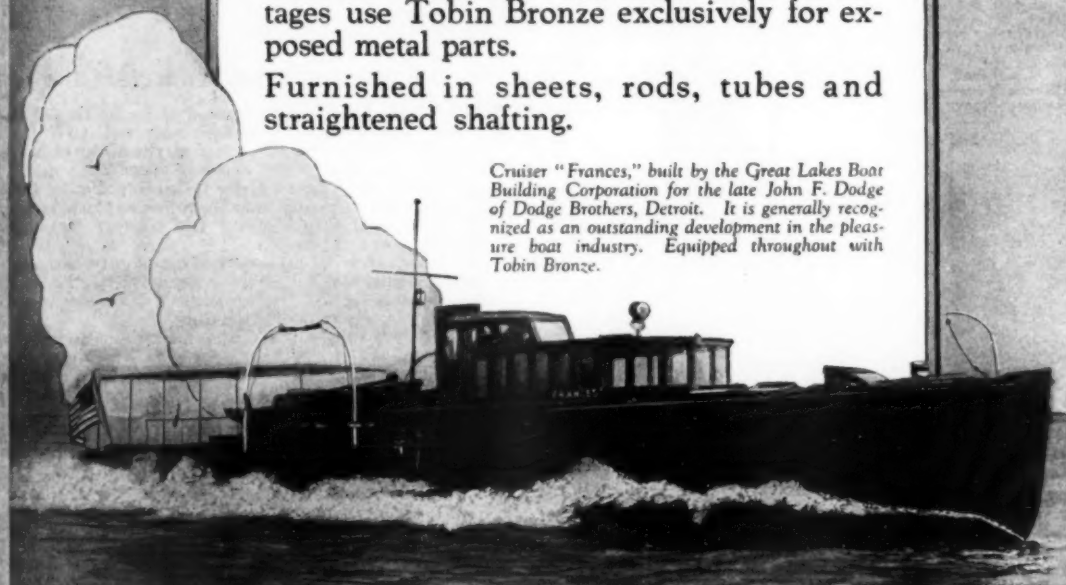
resists corrosion

The distinct superiority of Tobin Bronze for underwater service cannot be observed in the outer appearance of the material.

Tobin Bronze is manufactured by special processes which thoroughly work the material from the core to the outside surface, resulting in a uniform hardness and even distribution of internal strain, which eliminates the danger of cracking or failing under pressure.

Motor boat builders of recognized standing who have learned to appreciate these advantages use Tobin Bronze exclusively for exposed metal parts.

Furnished in sheets, rods, tubes and straightened shafting.



Cruiser "Frances," built by the Great Lakes Boat Building Corporation for the late John F. Dodge of Dodge Brothers, Detroit. It is generally recognized as an outstanding development in the pleasure boat industry. Equipped throughout with Tobin Bronze.

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Advertising Index will be found on page 138.

per-fect bal-ance

Easy on the Hull

Purring smoothness, from idling to open throttle has made Wisconsin Motors preferred power. White Cap Six and Four, and sturdy "A-M" are noticeably free from vibration, your hull's worst enemy.

There's a Wisconsin to fit **your** boat—to power it BETTER.

Write for data—mention length, beam, draft, and type of boat.

WISCONSIN MOTOR MFG. CO. MILWAUKEE WISCONSIN

Wisconsin

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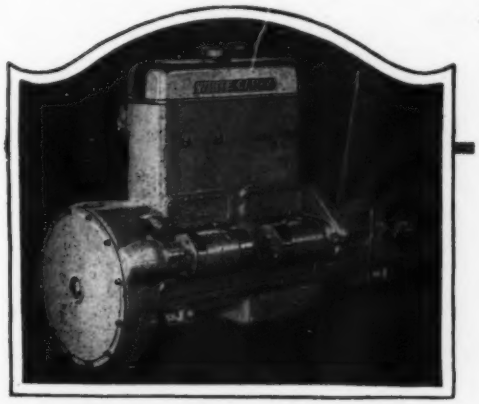
White Cap "4"—4"x5", 42 H. P. at 1400 R. P. M. White Cap "6"—3⅜"x5", 60 H. P. at 2050 R. P. M. Wisconsin A-M, 4¾"x5½", 54 H. P. at 1400 R. P. M. Paragon reverse gear, Bosch magneto, impulse coupling. Leece-Neville 12-volt starter and generator. Propeller shaft coupling for 1¼-inch shaft. Bronze water pump gear type. Stromberg carburetor. Wiring. Oil pressure gauge. White Caps have thermostatic water temperature control.

Prices: White Cap "4", $795; White Cap "6", $995; A-M, $1050.



WHITE CAP "4"

LINCOLN
To possess the Lincoln is to know that no worthier or more completely satisfactory car can be had throughout the world.
LINCOLN MOTOR COMPANY
Division of
Ford Motor Company

Advertising Index will be found on page 138.

20th Annual National

MOTOR BOAT SHOW

Grand Central Palace

NEW YORK CITY

JAN. 2 TO 10

1925

KERMATH

To our many many friends we wish a most Merry Merry Xmas and a Mighty Happy New Year.

Kermath Manufacturing Company
5879 Commonwealth Ave., Detroit, Michigan

Canadian Address:
11 East Wellington Street, Toronto, Ontario

Advertising Index will be found on page 138.

BOSCH
Motor Boat Accessories

The Magneto that made the name BOSCH famous. A type for every engine. Over 3,000,000 in use.

The Bosch Horn. Over 150,000 in use.

Bosch "Long Life" Spark Plugs. The old famous, reliable pioneer plug. "Steatite" insulator, Nickel Alloy Electrodes, Gastight construction.

WHETHER cruising or racing, so much depends on the reliability of your ignition system, that you cannot afford to have your boat equipped with any other products than the best—the *original* Bosch.

Experienced motor boat owners know exactly what to expect from Bosch Magnetos—Spark Plugs—Horns and Associated Products, and therefore, use these accessories in preference to all other makes.

Always Look for ⊖ This Trade Mark

Be sure to say "Robert Bosch" when ordering from your Dealer.

If you cannot obtain these products, advise, and we shall see that you are promptly supplied.

Interesting illustrated and descriptive literature of the genuine *original* Bosch Products will be sent to any Motor Boat Owner, Builder or Dealer, upon request.

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Otto Heins, President

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Sales and Service Stations in Principal Cities the World Over
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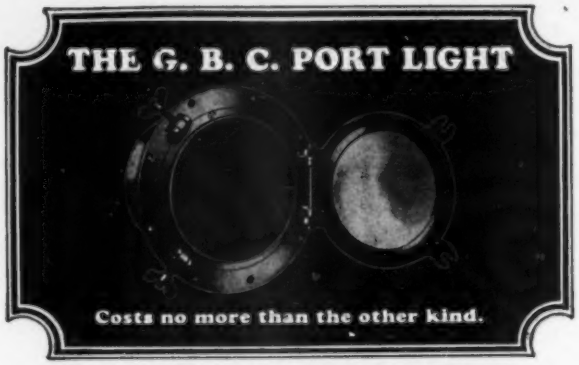

IN FIVE MINUTES

You can fit a fly screen to the G.B.C. Port Light that is permanent. No rattling or falling out.

Adopted by the Great Lakes Boat Building Corporation as the standard Port Light for their Seavilla cruisers.

If you are building or repairing you want them. Send for circular.

GEO·B·CARPENTER & Co.

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Sailmakers and Riggers

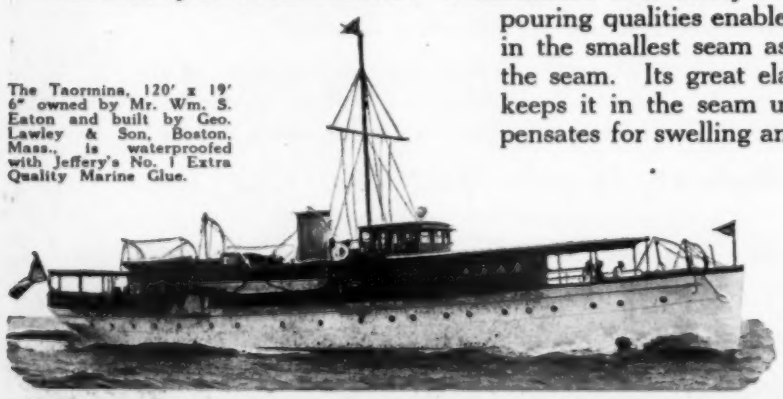
200 West Austin Ave. Chicago

JEFFERY'S MARINE GLUES

ARE WATERPROOF AND LASTING

Waterproof the seams with Jeffery's Glue and your boat is waterproofed for more than a decade. Pound for pound it will go further and produce a better and more lasting result than any other glue.

The many characteristics of Jeffery's No. 1 Extra Quality Marine Yacht Glue has made it famous for seventy-five years as a high grade glue. It is specified by prominent designers and used by best boat builders. When melted it is nearly as liquid as water and its fine pouring qualities enables it to fill to the lowest point in the smallest seam assuring a complete closure of the seam. Its great elasticity and adhesive qualities keeps it in the seam under all conditions and compensates for swelling and shrinking.



The Taormina, 120' x 19' 6" owned by Mr. Wm. S. Eaton and built by Geo. Lawley & Son, Boston, Mass., is waterproofed with Jeffery's No. 1 Extra Quality Marine Glue.

Send for booklets "How to Make Your Boat Leakproof" and "Marine Glue, What to Use and How to Use It."

L. W. FERDINAND & Co.

152 Kneeland St., Boston, Mass.

Advertising Index will be found on page 138.

Of Course the Seavilla has a HYDE PROPELLER

The new 36-foot Great Lakes Seavilla.

The Great Lakes Boat Building Corporation exercised more than ordinary care in designing the new 36 foot "Seavilla." It was not a matter of chance nor price that they selected Hyde Propellers as standard equipment. Their engineers wanted the utmost in propeller efficiency.

They wanted a propeller of correct pitch, balance and highest grade material, so they specified "Hyde."

The same correctness of design and quality of materials and workmanship characteristic of Hyde wheels is also found in Hyde Windlasses, Steerers, Capstans and boat hoists; either hand, steam or electrically operated.

Write for a copy of "Propeller Efficiency" it contains a wealth of information on how to increase the speed, comfort and efficiency of motor boats.

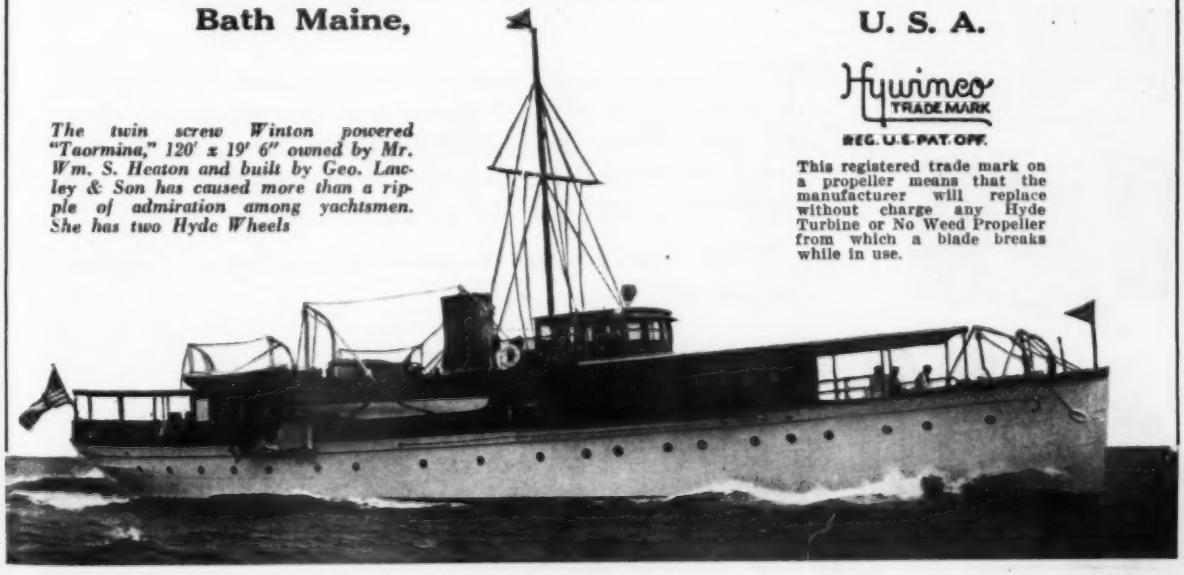
HYDE WINDLASS COMPANY

Bath Maine, U. S. A.

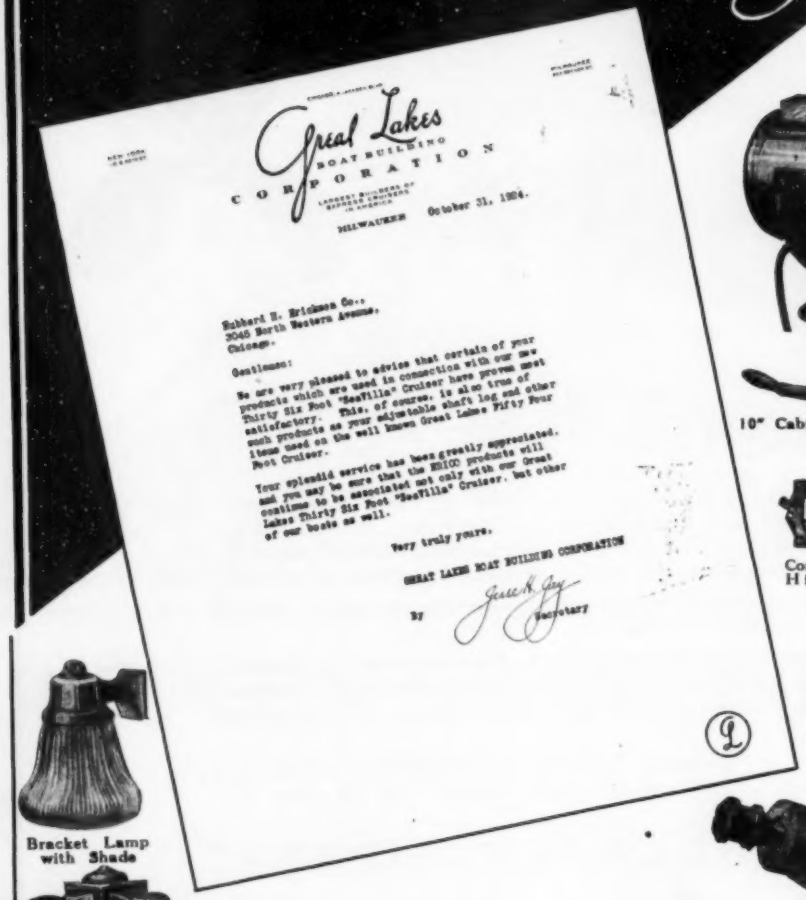
The twin screw Winton powered "Taormina," 120' x 19' 6" owned by Mr. Wm. S. Heaton and built by Geo. Lawley & Son has caused more than a ripple of admiration among yachtsmen. She has two Hyde Wheels

Hyvinco TRADE MARK
REG. U.S. PAT. OFF.

This registered trade mark on a propeller means that the manufacturer will replace without charge any Hyde Turbine or No Weed Propeller from which a blade breaks while in use.



The Builders of the "SEA VILLA" Say



Great Lakes
BOAT BUILDING
CORPORATION

MILWAUKEE October 31, 1924.

Hubbard H. Hickson Co.,
3048 North Western Avenue,
Chicago.

Gentlemen:

We are very pleased to advise that certain of your products which are used in connection with our new Thirty Six Foot "Seavilla" Cruiser have proven most satisfactory. This, of course, is also true of much products as your adjustable shaft log and other items used on the well known Great Lakes Fifty Four Foot Cruiser.

Your splendid service has been greatly appreciated, and you may be sure that the ERICO products will continue to be associated not only with our Great Lakes Thirty Six Foot "Seavilla" Cruiser, but other of our boats as well.

Very truly yours,

GREAT LAKES BOAT BUILDING CORPORATION

By Secretary

Mahogany Flag Pole and Electric Stern Light

10" Cabin Control Electric Searchlight

Combination Sash Hinge and Anti-Rattler

Spark and Throttle Controls

Mast Hinge

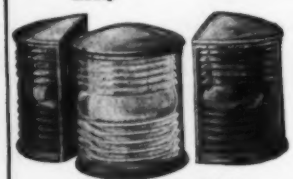
Mooring Bitt

Combination Bow Plate

Universal Shaft Log

Bracket Lamp with Shade

Double Bracket Lamp



Electric Running Lights

ERICO Electric Bilge Pump

THE superlative quality and design of ERICO ACCESSORIES; their greater dependability and durability distinguishes them from other accessories just as the Seavilla is distinguished as the outstanding standarized cruiser of the year.

Write for complete catalog of Erico Marine Accessories.

ERICO MARINE SPECIALTIES

HUBBARD H. HICKSON & CO.

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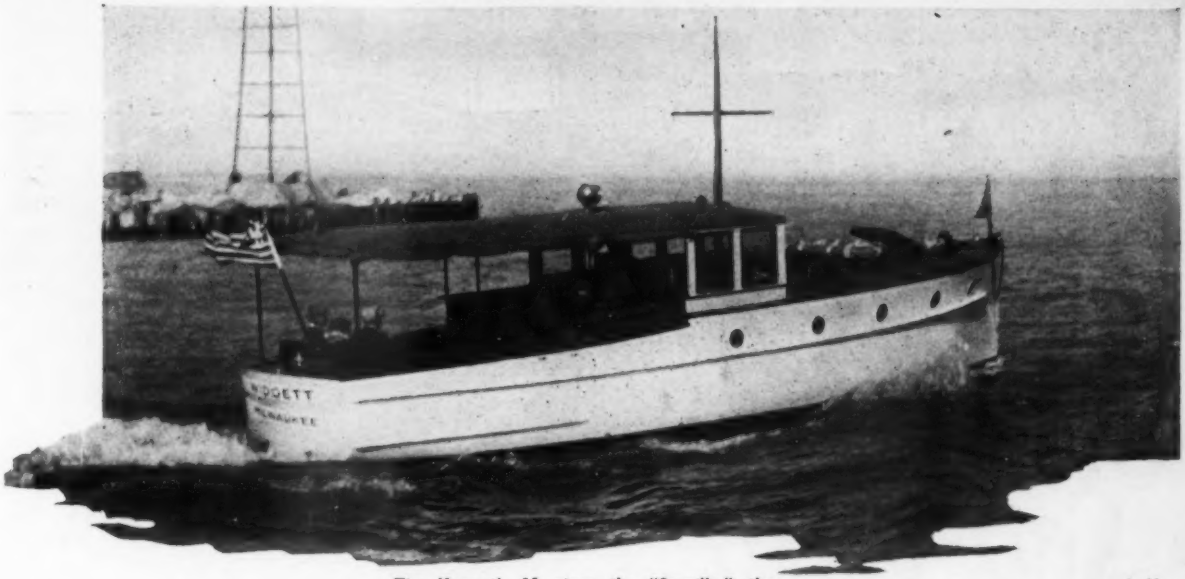
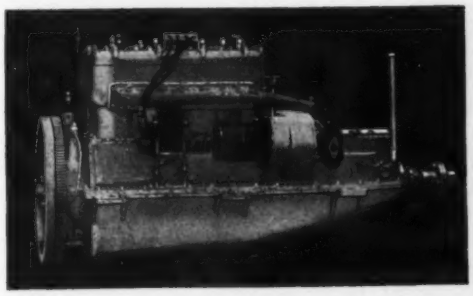


The Kermath 35 gives the "Seavilla," the latest development in standardized cruisers, an easy running speed of 10 miles per hour.

THE most modern features of small cruiser construction, combined with the elegance in design and appointments, found on boats of much larger size, makes the "Seavilla" with its Kermath 35 power plant a real joy and whose possession is a continued source of pride and pleasure.



The Kermath 35: 600 to 1000 R.P.M.; 20 to 40 H.P.; weight 950 pounds.

Here are ten of the many reasons why the Great Lakes Boat Building Corporation selected the Kermath 35 for the "Seavilla":

First—Liberal bore and stroke, four cylinders, 4⅜" X 5½".

Second—Five-bearing crankshaft, 2" diameter, drilled for pressure lubrication direct to each bearing.

Third—Large five-bearing camshaft operating constantly in a pocket of oil; insures quietness without wear.

Fourth—Big oil pockets supply each main bearing.

Fifth—Oil pump submerged in oil insures constant lubrication; oil pressure adjustable.

Sixth—Large handholes give easy access to connecting rod bearings for adjustment.

Seventh—Detachable cylinder head without overhead water pipes.

Eighth—Liberal water pump, easily cleaned.

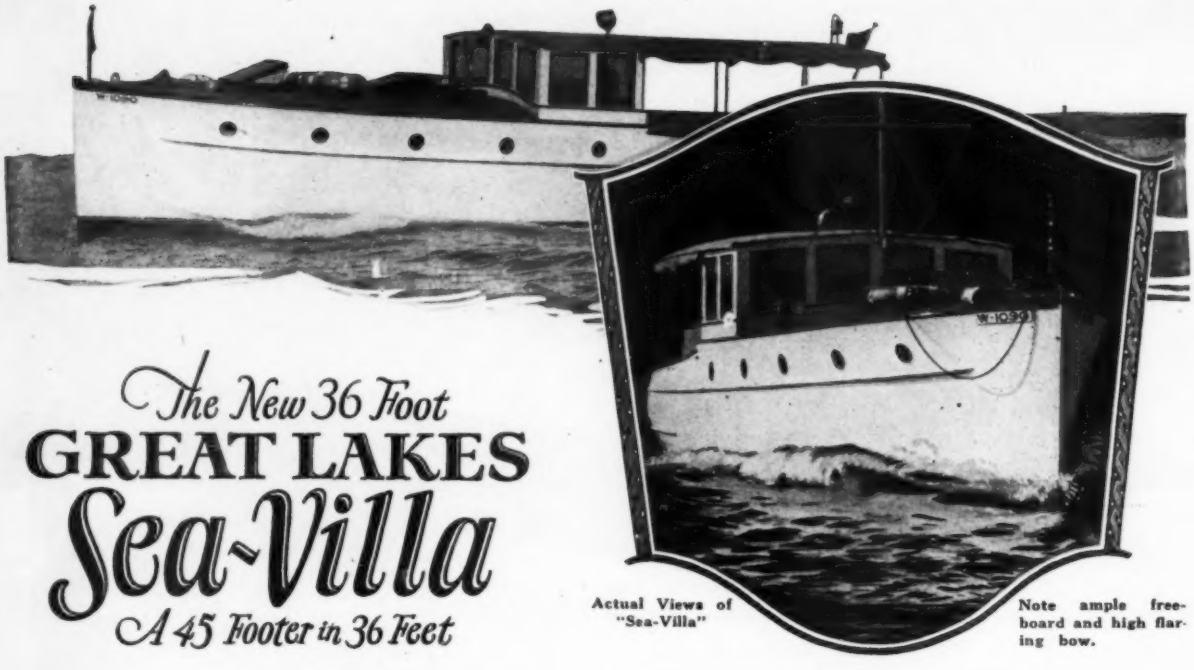
Ninth—Double row ball bearings takes all propeller thrust; also ball thrust bearings on camshaft and oil pump; two annular ball bearings on instrument shaft.

Tenth—Finest main and connecting rod bearings money can buy; burnished to practically 100% bearing surface without scraping.

Kermath Engines are made in sizes of 3 H. P. to 50 H. P.
There is one best suited for your boat.

KERMATH M'f'g Co.

DETROIT 5879 Commonwealth Ave. MICHIGAN.



The New 36 Foot

GREAT LAKES *Sea-Villa*

A 45 Footer in 36 Feet

Actual Views of "Sea-Villa"

Note ample freeboard and high flaring bow.

TEMPTING Florida! Somewhere, some busy business-man without long-laid plans, has again caught the last-minute longing for vacation land by the sea.

We've anticipated this man's desires for quick delivery by putting a popular Great Lakes "Sea-Villa" in stock — ready for 24-hour shipment from our yards.

The price of $7,500 for this delightful craft is in itself an attraction apart from the factor of rapid delivery. And here's also the advantage of a **real** one-man operated and maintained home afloat, besides. A cruiser that responds with minimum attention like your car. Engine is fully accessible beneath the special semi-bridge deck.

Never before has so much roomy comfort been offered within the compass of 36 feet. What a spacious cabin with its deep, richly-upholstered lounge seats — and they make up into four real beds, too! A spacious room 6 feet, 6 inches long and 9 feet wide. Plenty of headroom — 6 feet, 3 inches — and lots of light and ventilation. Take guests along, too — for there's a second stateroom forward with two comfortable berths, with drawers under, a dresser and all. Lavatory between, privately accessible to each.

There's room for twelve in the big canopy-protected cockpit. A splendid, thoroughly equipped galley answers real man-sized appetites without coaxing.

Living as you please in snug comfort, going as you please to explore the boatsman's paradise, fishing like you have never fished before — what could beat life aboard this staunch, commodious, beautiful craft!

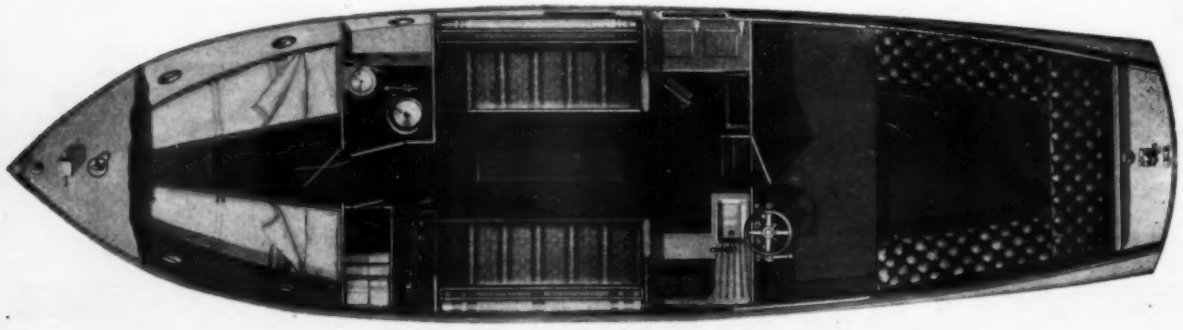
Write us for complete specifications.

Great Lakes Boat Building Corporation

Distinctive craftsmanship prevails throughout the "Sea-Villa" as in all Great Lakes craft.

Milwaukee, Wisconsin

Built by the same masters that built the Great Lakes 54-foot Express Cruiser.



The well-balanced arrangement plan, showing the roomy comfort of the "Sea-Villa."

Advertising Index will be found on page 138.

NEW Racing Rules Adopted *for* 1925

American Power Boat Association At Its Twenty-Second Annual Meeting Formulates Plans for Next Season's Activities — New Trophy Presented by Horace E. Dodge is Accepted

THE American Power Boat Association, at its recent Annual Meeting in New York, did much to stimulate motor boat racing in this country next summer. The whole proceedings were based upon the development of real boats and power plants, and that every race should be more than a sporting event. More and more, racing becomes the motor boat laboratory through which any worth while development in hulls or power plants must pass and become perfected before it is placed upon the American market.

Not only was attention given speed craft and the faster runabouts and cruisers in the discussion, but plans were worked out for the handicap events as well. Special emphasis was placed upon rules to interest more of the slower boats in racing and especially cruisers of a type not originally built to fit any particular rule requirement and those used ordinarily for other purposes than out and out racing.

President Fred R. Still presided with delegates present from thirty clubs and proxies from about fifty more. In his annual report, President Still reviewed the activities of the Association for the past year and pointed out that much had been accomplished along other lines than racing, such as legislation, aids to navigation, removal of taxes and the general harmonizing of yachting interest from all parts of the country. Mr. Still pointed out that quarreling over rules had been almost entirely eliminated and that a most cordial relationship established with other yachting organizations and among the Clubs making up the membership of the American Power Boat Association.

Dates for Important Events to Come

Jan. 2-10 — Motor Boat Show, Grand Central Palace, New York, N. Y.

Feb. 22 — Palm Beach (Fla.) Regatta.

Mar. 20-22 — Annual Southern Regatta, Miami Beach, Fla. Races for Horace E. Dodge Trophy, Fisher - Allison Trophy and $10,000 Carl G. Fisher cash prizes.

August 13-16 — Annual Niagara Regatta, Buffalo, N. Y.

August 27-30 — Gold Cup Regatta, New York City.

Sept. 4-8 — Annual Regatta, Detroit, Mich.

Secretary W. D. Edenburn reported that there were 115 clubs in good standing on the Association roster and during the year seven clubs had been elected to membership.

The report of the Racing Commission showed that sanctioned races during the year had been held at Miami Beach, Havana, Cuba; New York City, Lake George, Middletown, Connecticut, Sachem's Head, Connecticut, Buffalo, Detroit, Chesapeake Bay, Shelter Island, Mamaroneck and on Long Island Sound.

Ira Hand, Treasurer of the Association, reported that receipts for the year had been $3,474.32 and the disbursements $1,996.20, leaving a cash balance on hand of $1,478.12.

Reports were also presented by Henry Sampson, Jr., Timer; F. W. Horenburger, Surveyor; Arthur J. Utz, Measurer; Wilbur H. Young, Chairman of the Technical Committee; Ira Hand, for the Standardization Committee; C. H. Moore, Chairman of the Challenge Cup Committee; Henry A. Jackson, Chairman of the Aids to Navigation Committee; Commodore A. A. Schantz, Chairman of the Legislative and Legal Committee; Commodore Eagan, Chairman of the Membership Committee, and W. D. Edenburn, Chairman of the Publicity Committee.

For the local sections of the Association, Frederick von Neida of Philadelphia reported for the Delaware River Section, emphasizing the successful racing season they had had on the Delaware in 1924, and pointing out that in none of their races did they ever have less than twenty-eight starters, and in some events the number of boats starting was as high as seventy-four. For other local sections, Commodore Moore reported for the Hudson River and Commodore Jackson for the Long Island Sound Section. William Bigelow reported for the Chesapeake Bay Clubs and invited all clubs to be present at the 1925 Chesapeake Bay regatta.

Resolutions were adopted and spread upon the Association records on the death of Commodore Harry A. Parsons, and Colonel Thomas A. Duff.

The Racing Commission made a number of suggestions for changes in the racing rules and after full discussion of the suggested changes, the following were adopted:

A Contest Board for Gold Cup Races

The object of the Contest Board is to formulate rules for the design, construction and equipment of motor boats to compete for the American Power Boat Association Challenge Cup, a perpetual trophy for forty-foot class and under (hereinafter called the Gold Cup), also to formulate rules to govern the conduct of races for said trophy.

The first Contest Board shall be composed of the following:

(a) The owners of boats who contested for the Gold Cup in the years 1923 and 1924.

(b) The chairman of the Race Committees managing the contests for the Gold Cup in the years 1923 and 1924.

(c) The members of the Racing Commission of the American Power Boat Association.

Subsequent Contest Boards will be composed of the owners of boats who have contested for said trophy the two preceding years, together with the chairmen of the Race Committees for the two preceding years and the members of the Racing Commission of this Association; the latest contesting owners each year are to join the Contest Board and take part in any meetings held after a race has been run. The Judicial Board of the Contest Board to be composed of the entrants of boats in each race and the Race Committee of that race.

The duties and powers of the Judicial Board of the Contest Board shall be as follows:

(a) Not later than twenty-four (*Continued on page* 114)

General view of Salcombe Harbor, Devonshire, England, with Adastra, and an American-owned motor boat lying at anchor

Fog *in the* English Channel

A Balky Engine and A Sudden Fog Serve to Make the Approach to the Rocky Coast Guernsey an Event of Importance

By Alfred F. Loomis

Part V

Aboard the 36-foot yawl Adastra chartered abroad, Mr. Loomis is cruising in leisurely fashion along the English coast. He started from the Isle of Wight and has had an interesting trip to the north with stops at Yarmouth, going later to Brixham and Swanage. He encountered a number of Naval Vessels at target practice and finally makes port. Good weather favors him and after many interesting side trips along the coast of Devonshire, he reaches Falmouth, the turning point in the cruise. From here his journey goes across the channel to the coast of France. His story of the cruise is appearing each month in MoToR BoatinG.

SOMEONE is always dividing the unsuspecting occupants of this globe into two separate classes—those, for instance, who eat meat and those who don't; or those who like liquor and those who don't want others to like it. So I may as well make a division of my own between those who stay ashore and those who go to sea.

A horse, which is one of the most land-abiding animals, always thinks the grass is sweetest that grows just beyond his pasture. Likewise a motor tourist believes that the country is more beautiful over the next hill. But your seafarer, no matter where he hails from, invariably tells you that the coast is most terrible a few miles beyond the stretch he knows. Discounting the dangers that he has been brought up with, he dreads the ones he has only heard about.

It has already been mentioned in passing that when Mrs. Loomis and I threatened to cruise in English waters we were warned against all manner of dangers and discomforts. Among them were the bitter cold, the terrific currents, the sudden squalls, and the implacable fog. We had conquered the cold by wearing heavy clothes; the currents had been

The Guernsey-Southampton seaplane, landing with passengers in St. Peter Port. By air the Channel Islands are only an hour and fifteen minutes from the mother country

carried where possible and stemmed with the motor when necessary; the squalls had treated us kindly; and in two weeks of cruising from the Isle of Wight to Falmouth and back to Salcombe, Devonshire, we had encountered no fog that we couldn't see through.

But now we were warned of a new danger. Certain yachtsmen who had never been there advised us that the Channel Islands, lying twenty miles off the French coast, and sixty from England, are tricky, treacherous places. We would do much better if we kept our yawl Adastra in English waters and left the French coast (with its implacable fog and terrific currents) severely alone. Claud Worth, to be sure, had said that St. Peter Port, Guernsey, is a delightful spot for a visit, but even he had frowned on Alderney, Jersey, and Serk.

And yet I find that leaving port in the morning, running a course, and arriving in port that evening begins to pall after a fortnight, no matter how beautiful the harbors are, or how ideal the conditions for sailing. It is pleasant, but it lacks uncertainty, and this missing element is one of the vital things that make cruising the most delightful sport in the world.

Consequently, P. L. and I set our hearts on reaching Guernsey, and began reading up in the Coast Pilot about the island. And here are some choice passages quoted from the description of the region. "The approaches to the Channel Islands present peculiar difficulties to the stranger. The outlying rocks fronting their coasts, the strength and ever-varying direction of the tidal stream, and the rough sea occasioned by it in bad weather, are all elements of danger." "In the Russel Channels the stream exceeds five knots." "The north-western side of Guernsey should not be approached nearer than 3½ miles, as there are several dangerous rocky ledges lying off it."

Salcombe — Bolt Head as viewed from the hills in back of the village

A charming glimpse of the river above Salcombe

But we received some consolation from the excellent handbook of the English Cruising Association which implied that strangers would not meet with destruction if they chose fine weather and neap tides for their first visit. These were exactly the conditions that we had enjoyed for two days prior to our arrival in Salcombe. The barometer had been high and settled, the tides were at the neap. Thursday, the 26th of June, should offer the perfect combination for the cross-Channel run.

So when the morning of the 26th came we were underway at five-thirty, being sucked down the harbor at Salcombe by a tide that would favor us for two hours and a half. After that for four hours we could

Types of craft seen in St. Peter Port—a two masted cat boat used as a yacht

expect a set diagonally across our course, and for the remainder of the run could count on more help than hindrance from the currents.

The morning was rather thick, but Barkham, the paid hand, hoped that it would burn off before noon. He couldn't promise, but he could hope. The previous morning it had looked nearly as bad at Falmouth and had rounded out into a day with sky as clear as sapphire. In the offing south of Start Point a Brixham trawler wrapped a curtain of mist around her and disappeared from view. Her sails were set, but she moved only with the current, for the morning was breathless. Our own sails were furled, and in the smooth, gray sea the motor drove us along at a six-knot rate.

Breakfast was eaten underway, and when the plates were washed and secured for sea it seemed time to switch the motor from gasoline to kerosene. She had been taking progressively longer to heat up sufficiently to burn the heavier fuel, and I had made up my mind that on this run I should find the reason why, if I had to spend half the time studying the motor and the other half trying to understand the instruction book. Perhaps it would have been better for all of us if we had lain a day in Salcombe and solved the mystery.

The inner harbor of St. Peter Port dries at low water, and any little jobs that the hull of a steamer may require are done while she unloads cargo

Slipway in the old harbor at St. Peter Port, Guernsey

However, the transfer was made and P. L. and I looked at each other in suspense. Would the motor take the kerosene? It would. Three cheers. Nothing to worry about, except the mist, which had now settled into an outright fog.

But that would be all right. We couldn't expect to sight Guernsey until three in the afternoon, and by

(*Con. on p.* 100)

Dick Wastcoat DECLARES

"The Men Who Stay in Business — and This Applies Very Thoroughly to the Motor Boating Business — Are the Men Who Build Standard Things"

By Norman Beasley

QUITE early in life Dick Wastcoat, of the Paragon Gear Works, Taunton, Mass., got hold of the idea that there were opportunities for development in his home town.

But, let him tell the story—

"I graduated from Massachusetts Institute of Technology along in the nineteen hundreds and set out to make a name for myself as an estimator in structural steel work. The game was rather new in those days and after sticking at it for three years I flipped over into the chemical specialty business—meeting, if I do say it, with some success. As a matter of fact, I was pretty well satisfied with my prospects.

"One afternoon I was playing golf and becoming tired sat down in the shade of a tree. There was nothing on my mind—not even business. As I recall it, I was flat on my back and contemplating, from between half-shut lids, the distant clouds and marveling at the view. It was while I was thus idling that I heard a stranger—

"'Any objection to having me sit down beside you?' he was asking.

"'Not at all,' I returned. 'Glad to have the company.'

"We exchanged names and, in the course of a few minutes' conversation, I had told him that my home town was Taunton.

"'I know that town,' he came back. 'Spent a few days there last week. Nice place. By the way, what line of business are you in?'

"'Selling chemical supplies.'

"He pursed his lips and slowly shook his head.

"'Why did you ask that?' I inquired.

"'I was just thinking that there is a good business for sale in Taunton—if the right man hears of it.'

"'What is it?'

"'Hardly think you would be interested.'

"'But I am. If any of my old friends are going out of business, don't you think it natural that I should want to know of it?'

"'Sure, but this business is out of your line.'

"'Maybe it is—maybe it isn't. What is this you're trying to pull on me—a secret?'

Dick Wastcoat whose recipe for success is "Build standard stuff; build the best you know how"

"'Well, yes, more or less. The word just isn't to be passed around that this particular business is for sale. I shouldn't have mentioned it but my guess, regarding you, was that you were interested in machinery.'

"'I am. I did not tell you that I am a graduate civil engineer from the Massachusetts Institute of Technology and naturally if there is anything in my line that looks good, and is in the market, I am interested. Now, will you tell me?'

"My companion laughed.

"'Sure,' he said. 'I'm a machinery salesman and I had sort of figured on buying this business I have been talking about but I can't raise the price. I'm out of the field, definitely, but if you can buy it you'll be stepping into something good. The name of the concern is the Paragon Gear Works.'

"I did a lot of thinking (*Continued on page* 110)

Beneath *the* SOUT

by

VAN CAMPEN HEILNER

ONE morning we headed out the harbor bound eastward along the northern coast of Haiti and Santo Domingo. But the seas were of such height and of such roughness that we were forced to give it up and run in behind a reef off the Dominican Coast where we lay for the remainder of the day. A note from my log at the time:

"To the westward of us stands a remarkable rock called El Morro on our charts. This coast is very mountainous, the mountains coming right down to the sea. It is wild and savagely beautiful, but treacherous. It apparently blows here all the time and I am sorry now we did not go the south coast of Haiti. When we get across the Mona Passage I shall breathe much easier."

Through very heavy seas, we fought our way along the northern coast of Santo Domingo. We made little progress and generally were forced to seek shelter in some cove or behind some reef before noon. In one of these forced anchorages an enormous shark came alongside the

Jack and a young boobie. The cliffs were covered with colonies of these strange sea birds

Nepenthe II at anchor behind the reef at Mona, a true tropical island of romance. Its top was a great plateau, its cliffs honeycombed with caves wherein dwelt thousands of bats. Only ten people lived here

HERN CROSS

Part IV

An unusual cruise story, relating the adventures of the author and a small crew on board a 47-foot motor boat. They left the United States early in the winter, and have journed across the Atlantic to the Bahama Islands, and in succession have visited and explored many of them. Their journeys have been completed across the Island of Haiti, and we now find them on the way to Porto Rico

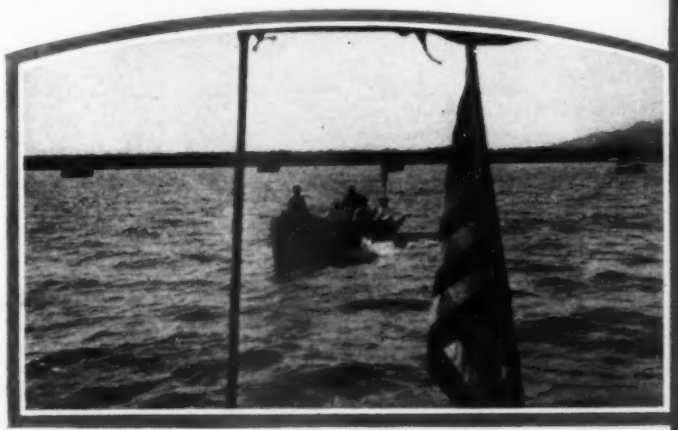
Mother boobie and young. The dark brown neck and body develops only when adult

boat and we estimated him to be at least twenty feet long, fully half the length of our little craft. Once, running before some heavy seas with the sun in our faces, in an effort to get behind a reef, we nearly ran upon it, missing it only by three or four feet, and another day we nearly capsized. We ate little these days except at night, cooking was difficult.

At last we rounded Cape Samana and ran into beautiful Samana Bay. At Santa Barbara de Samana we hoped to get gas and often we make prophesies without knowing it!

There was no gas at Santa Barbara de Samana and we were forced to run up to Sanchez at the head of the bay about twenty miles distant. Here we found it. As no one spoke English and our Spanish was somewhat faulty, we had a little difficulty at first, but the West India Oil agent had been apprised of our coming and unearthed a letter from New York written in Spanish which soon took care

Entrance to the vast guano caverns of Mona. A small family dwelt in the shelter at the right



The officials of the Dominican Republic coming out to search us for contraband

as we came up to the anchorage of that pretty little town nestling against the hills, we saw to our surprise the schooner Goodwill owned by my friend Keith Spalding of Chicago, lying at anchor. I had been present at her launching some months before, and when I had left had said facetiously, "See you in the West Indies!" How

They believe in decorating the carriages with silver trappings in Ponce, Porto Rico

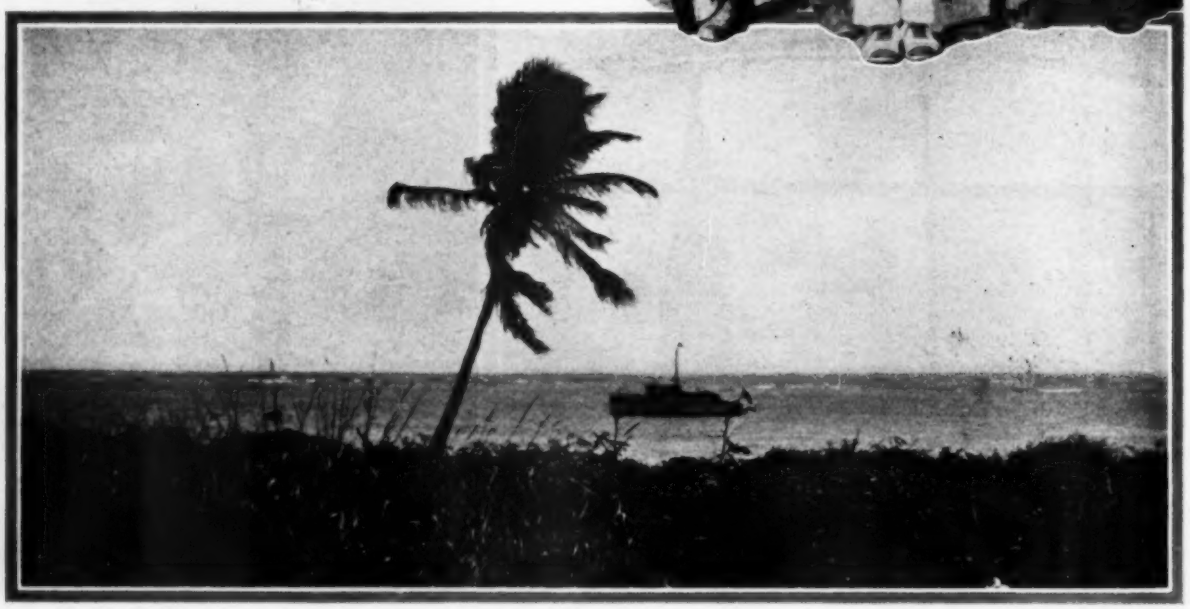
We take on supplies at Sanchez, D. R., where we are the object of much thoughtful contemplation.

The skipper striking a patriotic attitude, well guarded by two minions of the law

of our wants. Sanchez was one of the dirtiest towns it has ever been my misfortune to visit, and though it appeared to be bustling with commerce due to its being the railroad head for the adjacent interior, we were glad to be quit of it. Here everything was Spanish, with Spanish-looking people, in direct contrast to the French of Haiti which we had left such a short time before. We were gradually collecting a great variety of currency aboard ship and when one wanted small change it was difficult to separate the coin of the country from those of the others.

We did not tarry long at Samana, despite the urgings of the hospitable Goodwill. We were pushing on for Porto Rico and the Virgins. We were a long ways from Trinidad.

With an early start we left the bay and headed eastward through a fairly calm sea, our first. Passing Cape Engano, the northeastern tip of Santo Domingo, we saw several steamers lying wrecked upon the reefs, one with her nose almost against the lighthouse. An insurance wreck probably. Now the famous Mona Passage was before us, and we headed across it, keeping to the southward to avoid the dangerous tide rips marked on our charts. Whales were much in evidence that day, some leaping clear of the water like tarpon, falling with tremendous splashes that could be seen for miles. It was a marvelous sight to see a great black



Behind the shelter of the reef. Nepenthe II riding quietly, while outside a gale whipped to foam the blue Caribbean

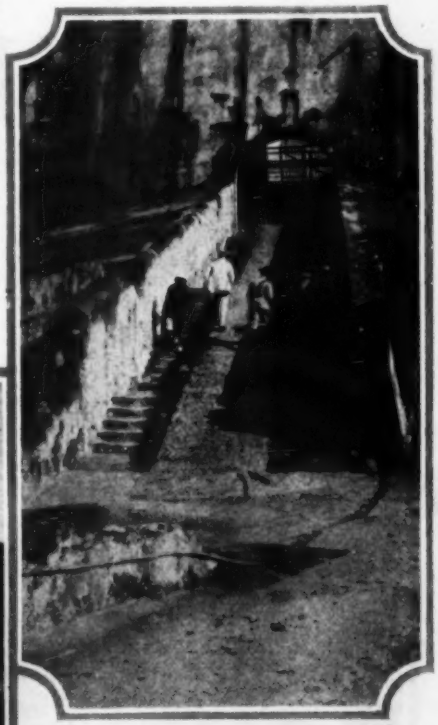
The savage coast of Santo Domingo. Cape Cabron near the entrance to the great bay of Samana

The wild west in the tropics. A curious mixture of English and Spanish in Porto Rico

body rise slowly and majestically from the sea until its whole great length was visible above the surface at one time; then to fall back in a vast smother of white which resembled the eruption of a geyser.

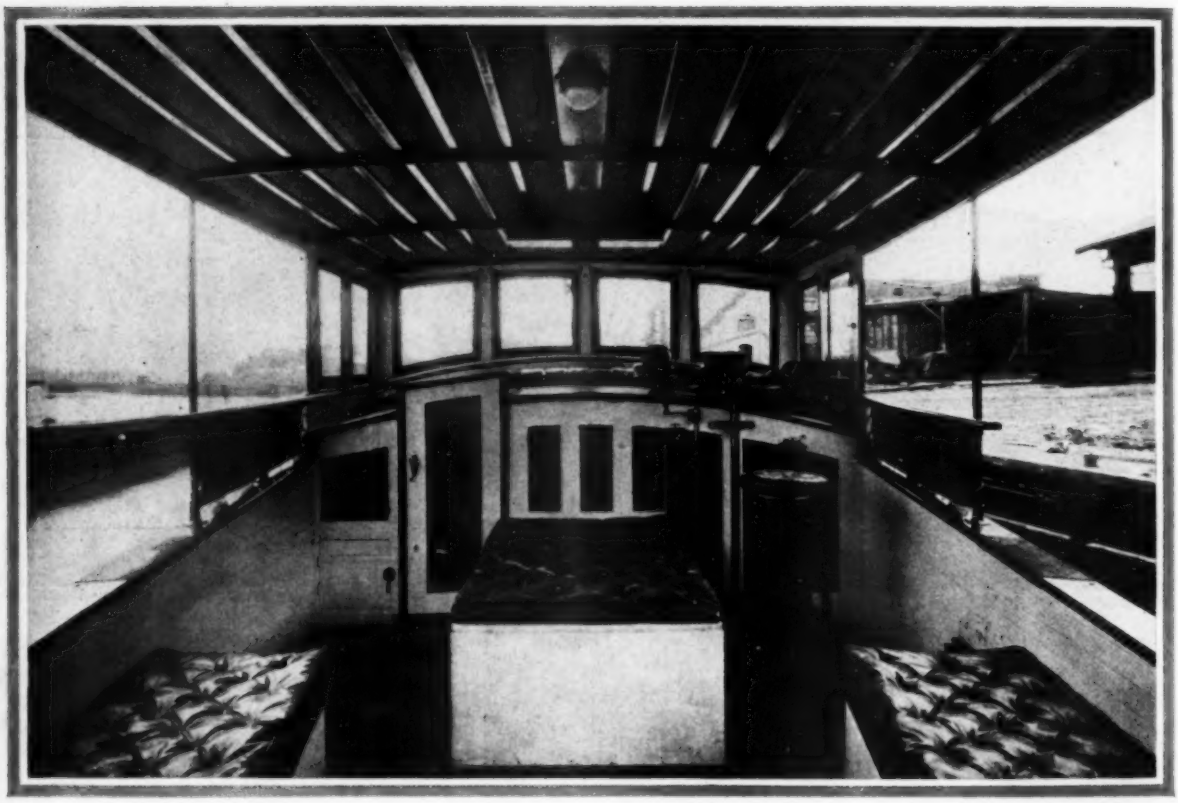
Toward late afternoon we descried an island looming up ahead which the charts said was that of Mona. We ran close under the lee of this island, the top of which appeared to be a plateau. The sides were full of great caves, the mouths of which yawed darkly at us as we passed. It was too late to think of striking across for Porto Rico, and as the wind was rising we began to look for an anchorage. Finally we saw a small collection of houses and jockied back and forth looking for an opening in the reef. Finally it appeared, a narrow pass full of

(*Continued on page 72*)



Like the one at Havana, El Morro of San Juan dominates the narrow entrance to the harbor

We traversed the plateau of Mona in a novel vehicle used to transport supplies to the lighthouse. The entire male population is aboard



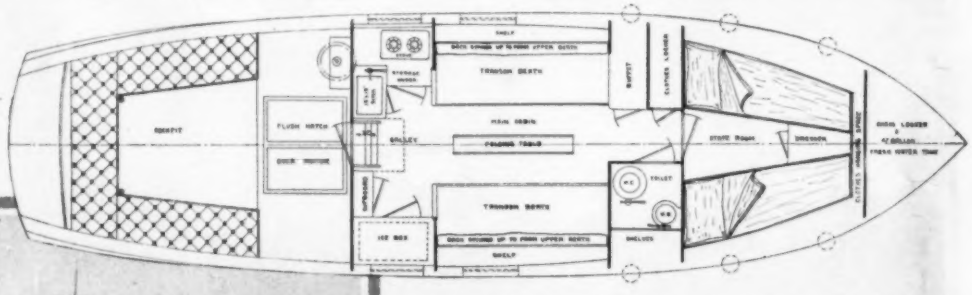
Looking forward in the cockpit of the new Great Lakes Seavilla showing the companionway and operator's position

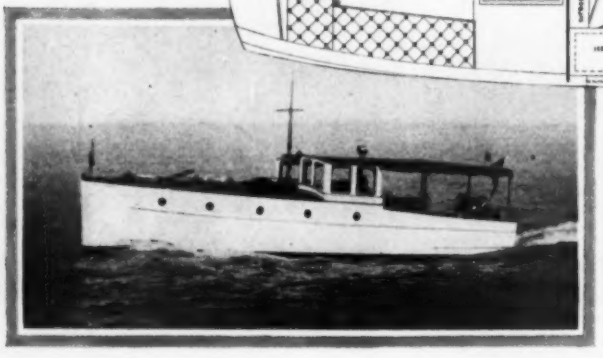
A Villa *of the* Sea

The New Great Lakes Seavilla Brought Out to Meet the Demand for a Real One Man Operated and Maintained Cruiser

REALIZING that the trend of the times in motor boating is toward the compact, commodious, economical, and most important—low priced, cruiser—the Great Lakes Boat Building Corporation has now come to the front with a new thirty-six footer. Having built so many footers of various sizes and types they have called this new cruiser quite rightfully Seavilla, for it is truly a villa of the sea.

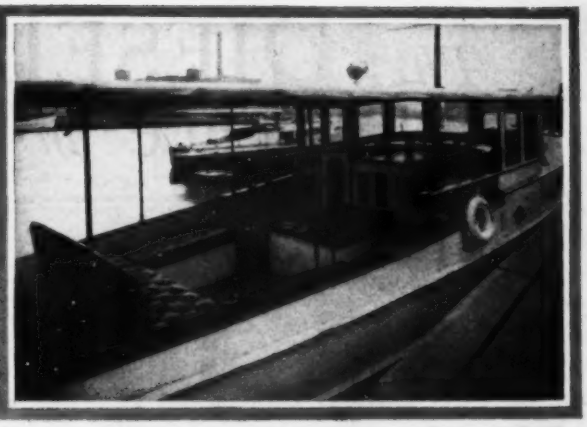
Arrangement plan of the boat which will give an idea of the excellent accommodation, the boat underway shown below





The one big outstanding feature of this new thirty-six foot Seavilla is that it is a whale of a boat for thirty-six feet. Viewing this cruiser from outside and inside one is rather non-plussed to figure where the forty-five foot appearance comes in in a boat of thirty-six feet. Here is a cruiser that just fits the coming yachtsman, as well as those who have long since arrived at the conclusion that real pleasure lies in the limitless expanse of water, rather than on the narrow congested roads. This cruiser is not just a boat—rather it is a complete little home,

Looking forward in the main cabin showing the comfortable berths and in the distance the separate stateroom forward. The Radiola receiver is compactly installed



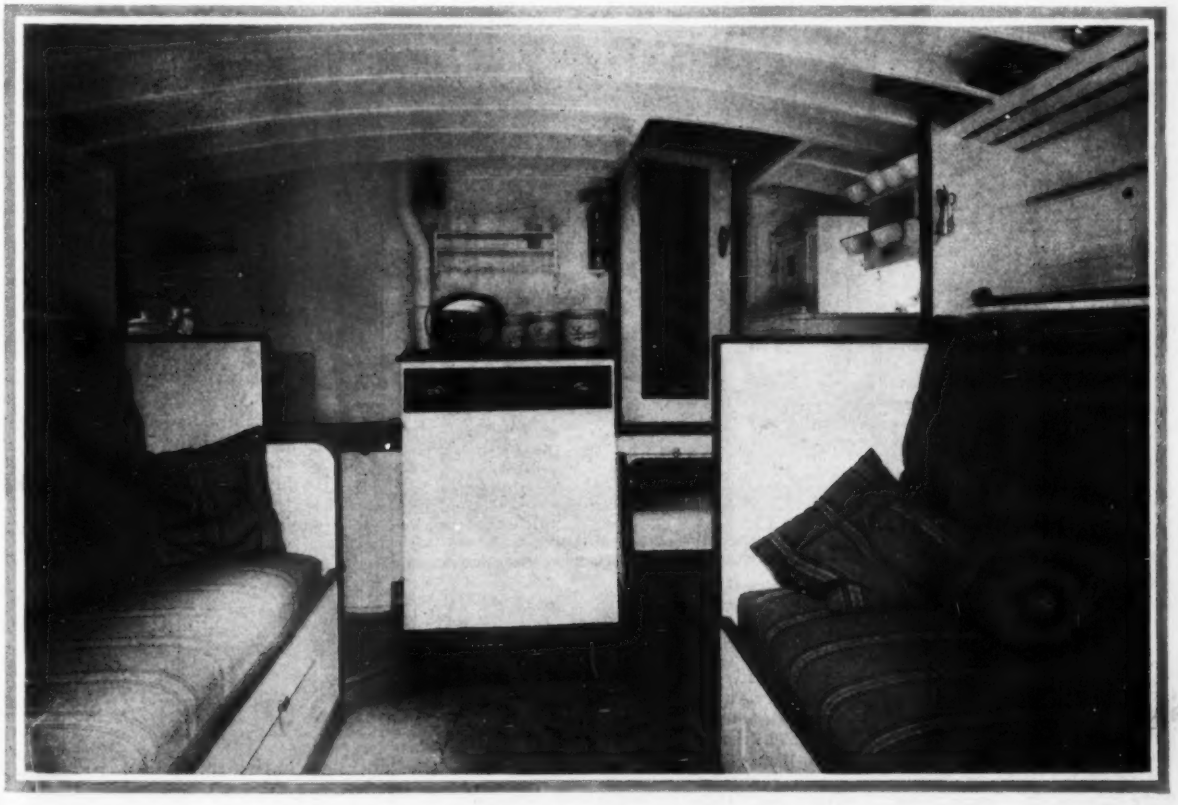
An external view of the cockpit and outdoor spaces of the Great Lakes Seavilla, which will show the excellent arrangement of this portion of the boat

and as such it should appeal to the many who are being converted daily to this greatest of outdoor sports.

Just how is it a home? In this way: It has the comfortable sleeping accommodations of a home, it has that spare bedroom in the form of an extra stateroom; it has that modern, compact little kitchen in the form of a convenient galley; and then, there is the big private porch in the form of a canopy-protected after cockpit. But this little kitchenette appartment is different, for it is not restricted to the confines of a neighborhood, nor even to a climate for that matter. The Seavilla is your home to take when and where you please. There is no better summer home than this cool and commodious little cruiser — and then when Winter comes take your home South with you. There is one real way to see and enjoy Florida, and that is in a boat like this. Explore all those keys, take advantage of the wonderful fishing, and forget hotel bills.

The new Great Lakes Seavilla cruiser was brought out to meet just such demands as mentioned above — a real one-man operated and maintained cruiser, where family and friends may live in comfort, which sizes up as follosw: Length overall 36 feet, beam 9 feet 11½ inches, draft 3 feet 2 inches. This shallow draft makes the boat ideal for Florida. Length of cockpit 11 feet 1 inch, which makes for commodious seating.

There are two 62-gallon gasoline tanks, giving a total of 124 gallons, which gives the Seavilla a cruising radius of thirty-six hours or 360 miles (*Continued on page* 128)



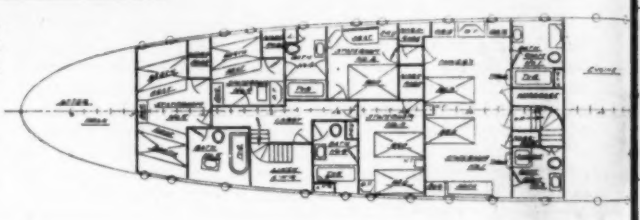
A view of the cabin interior looking back toward the galley and refrigerator space. Note that the engine is entirely enclosed and invisible from the cabin

The DIESEL ENGINE'S Influence *on* Yacht Design

Oceanus, a deep sea Diesel yacht, built for J. W. Kiser, and powered with a pair of Diesel engines, totaling 700 h.p. She maintains 13 knots and is 156 feet long by 24½ feet beam

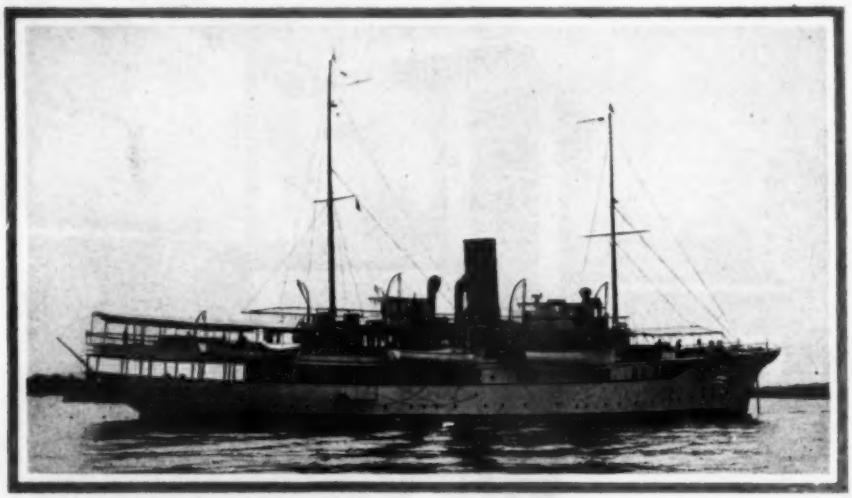
The Rapid Adoption of Oil Engines for Driving Large Yachts Has Affected the Appearance, Style and Economy of These Vessels

By Daniel H. Cox



ALTHOUGH before the World War Diesel engines were largely used for commercial purposes they had not been to any extent used in yachts, nor had their development advanced to a point where there seemed any decided advantage in considering them for this purpose.

There was then in existence, both abroad and in this country, a very large fleet of steam yachts many of them of considerable size. Owing to the prevailing low rates of wages, fuel and all matters relating to operation, the cost of running these vessels was extremely moderate and not a disturbing factor.



Vanadis, the newest Diesel craft, 240 feet long and 35 feet beam. She was built for C. K. G. Billings from designs by Cox & Stevens, and has two 900 h.p. Diesel engines

The cost of construction was also low, and although the possible saving in the size and cost of operation of vessels by the use of Diesel engines was known, the advantage to be gained by their use was not of sufficient importance to warrant their serious consideration for yacht service.

During the War practically all steam yachts of any size were placed in Government Service and while in this Service they received extremely hard usage. On their return to their former owners, at the conclusion of the War, the following situation existed.

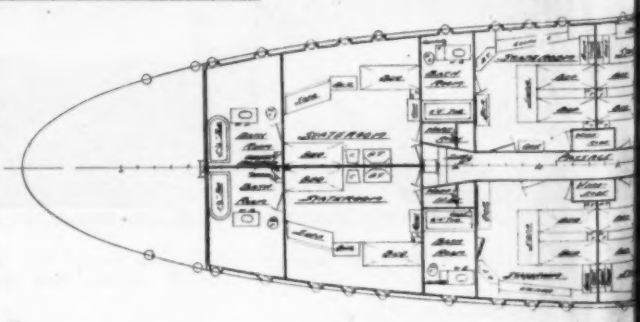
Construction costs and the price of materials of all kinds had more than doubled.

Wages had increased in at least the same proportion.

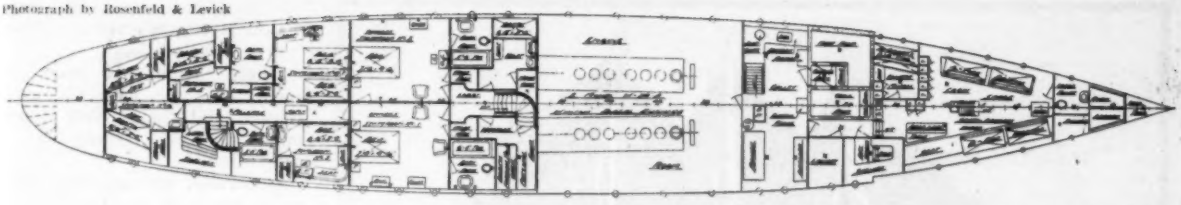
The vessels themselves had deteriorated and a great deal of money was necessary to place them in suitable condition for their original use.

In addition, great advances had been made in the design and construction of the Diesel engine and its advantages over the steam engine were more clearly understood.

The thoughtful yacht owner, appreciating the situation, was reluctant to incur the large expense necessary to recondition his yacht, and was also deterred from the placing of a contract for a new yacht by reason of the prevailing high building costs. However, the necessity for seagoing yachts was still existent and gradually those who had been accustomed to enjoying this sport investigated the Diesel engine with the result that orders

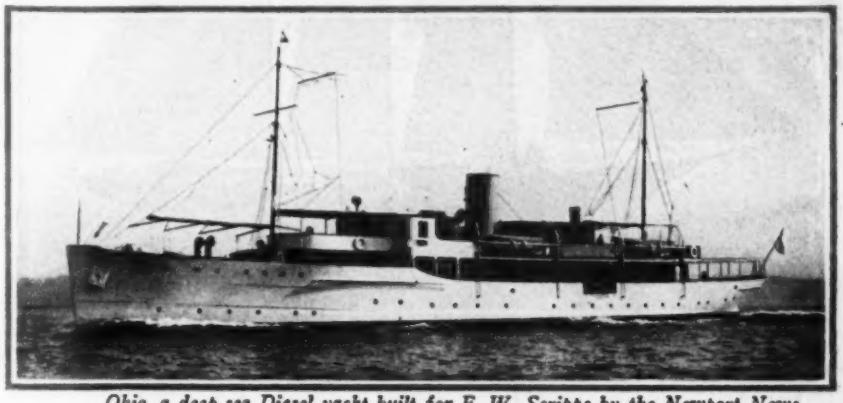


Photograph by Rosenfeld & Levick

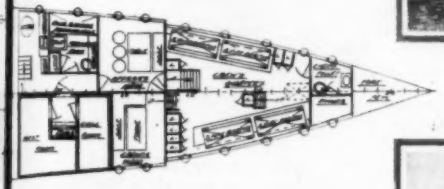


commenced to be placed for yachts equipped with this type of machinery. The success of these yachts was so great that other orders soon followed and a very notable fleet of such vessels has been built since the War.

The list on page 94 gives the names and particulars of American owned Diesel Yachts that have been built up to the present time, all of these having been constructed since the termination of the

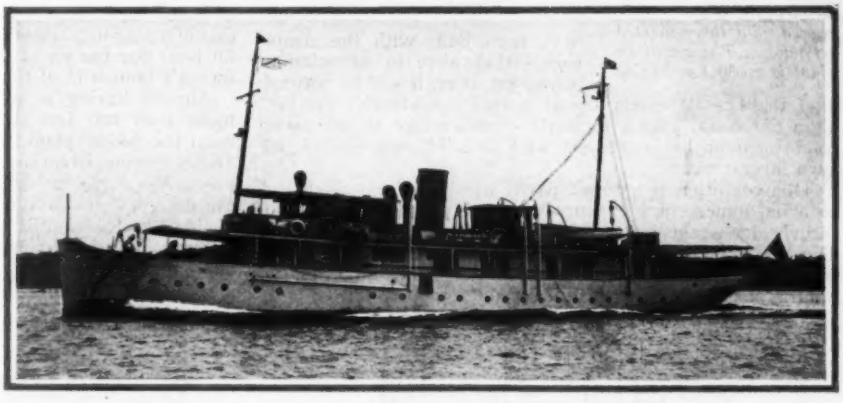


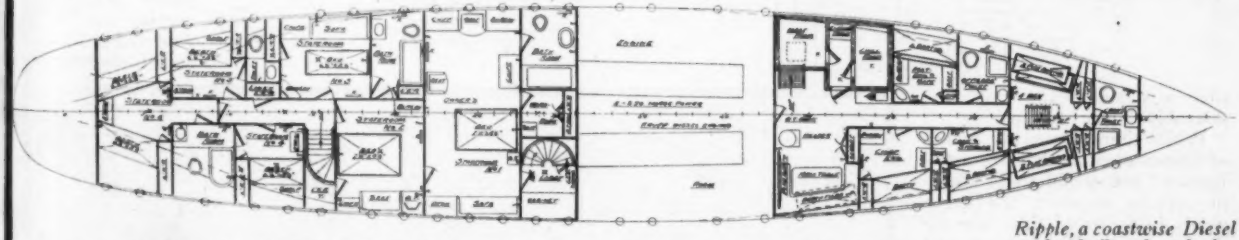
Ohio, a deep sea Diesel yacht built for E. W. Scripps by the Newport News S. B. & D. D. Company, from Cox & Stevens designs. She is powered with two 350 h.p. Winton-Diesel engines and can do 13 knots. She is 172 feet in length



War. This list does not include yachts fitted with Diesel Electric drive, semi Diesel or Low Pressure Oil Engines.

During this period practically no contracts have been placed for steam yachts, which shows that the advantages of Diesel engines have eliminated the use of steam for yacht work. In addition to the Diesel yachts enumerated later, all of which are equipped with Full Diesel engines directly connected to

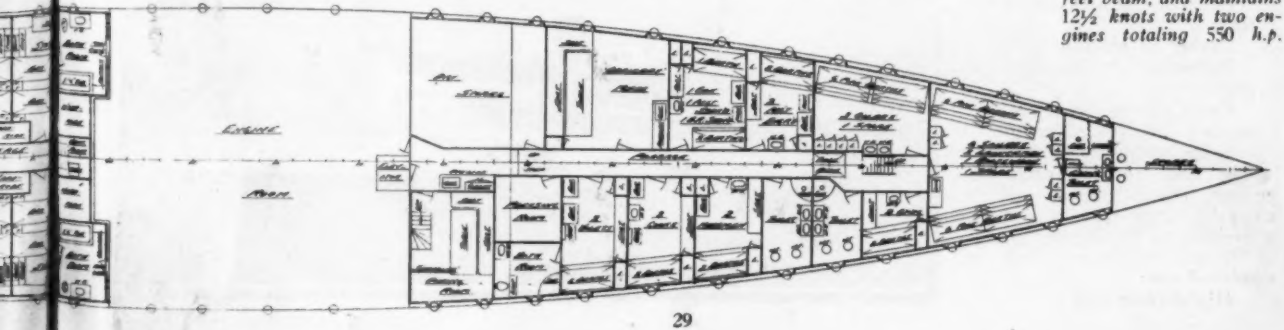


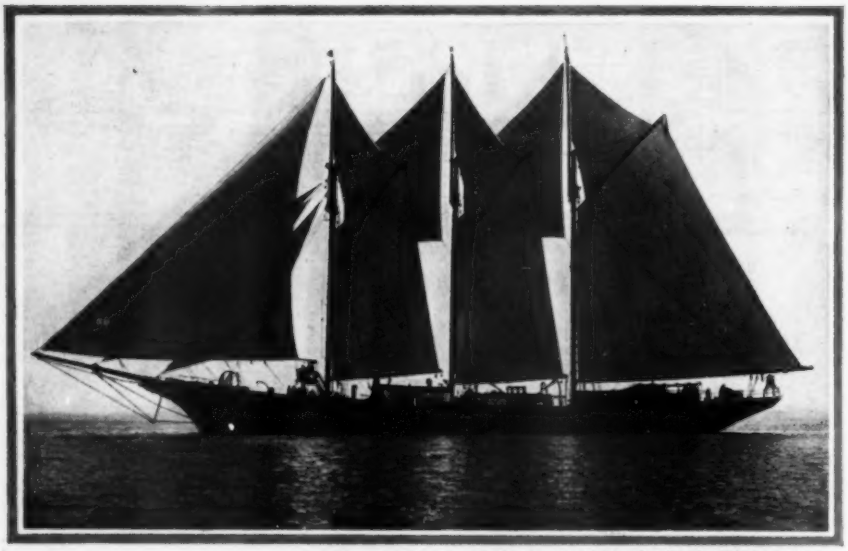


the propellers, Diesel Electric Drive has been installed in a number of yachts, and Oil engines operating on a lower compression than the Full Diesel engines have been used to a very considerable extent.

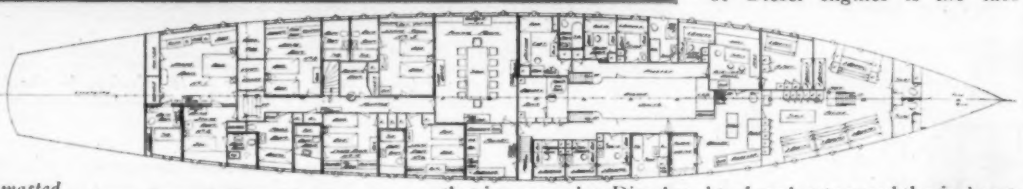
In comparing the dimensions of the Diesel yachts that

Ripple, a coastwise Diesel yacht built abroad for C. M. Leonard from Cox & Stevens designs. She is 134 feet long by 23 feet beam, and maintains 12½ knots with two engines totaling 550 h.p.



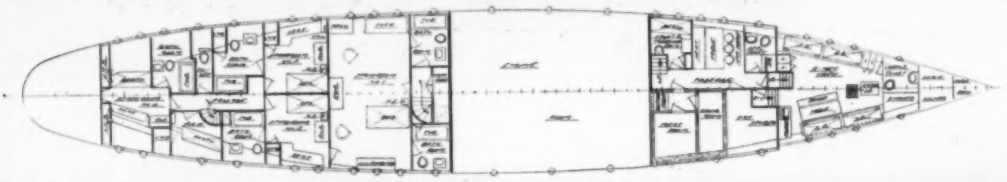


Hussar, a seagoing auxiliary built for E. F. Hutton from Cox & Stevens designs. She is 204 feet in length and rigged as a three-masted schooner. The auxiliary plant is a 650 h.p. engine



have been built with the steam yachts that were in commission before the War, it will be noticed that the Diesel vessels are as a rule considerably smaller than the steam yachts formerly owned either by the same yachtsmen or by yachtsmen well able, if they wished, to own larger yachts.

This condition is a result partly of the present tendency to avoid unnecessary expense wherever possible, but is also largely due to the fact that as a result of the advantages of Diesel engines an owner can secure in a much smaller vessel equally as good accommodations and seagoing qualities, as well as a much larger steaming radius, than would be possible in a steam yacht of considerably larger dimensions.



While there are many makes of Diesel engines that are satisfactory, and while these differ in certain respects, the arguments in favor of their use are the same in all instances and may be summarized as follows, when compared with the use of steam engines:

Economy in fuel consumption

Saving in machinery space

Reduction in number of crew

Great saving in necessary bunker fuel space for given cruising radius

The only counter-arguments against Diesel engines which must be considered in making a decision as to whether Diesel or Steam machinery shall be employed are:

Higher first cost

Possible increase in vibration if engines are not properly selected

These arguments must in every case be carefully considered and their effect determined before coming to a conclusion.

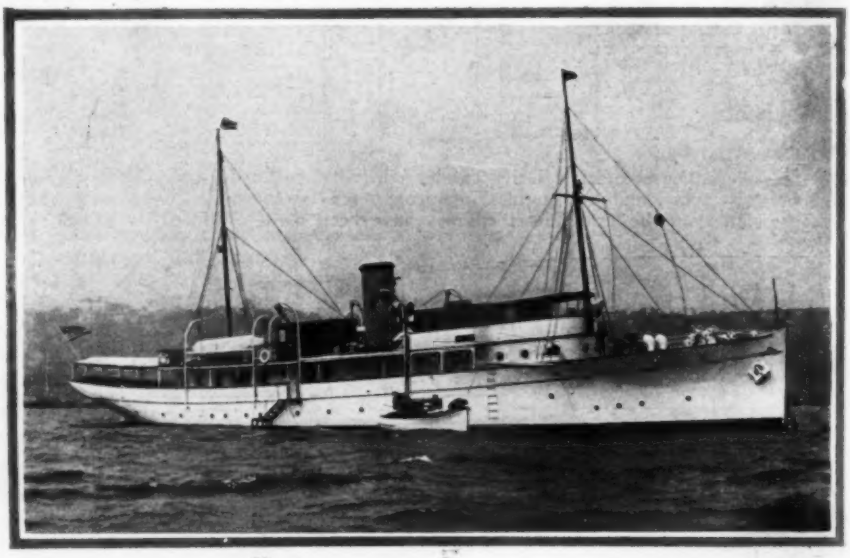
Generally, in cruising types of yachts over 100 feet waterline, of moderate power and speed, when used for voyages of any length, it will be found advantageous to install Diesel engines.

The question of reliability as compared with other types of motive power requires no consideration, the Diesel engine of today being without question as reliable as any other type of power that can be installed.

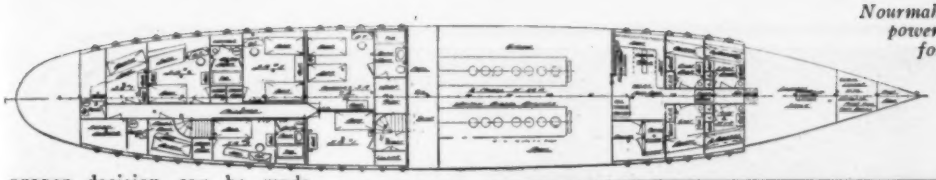
A good illustration of the economy resulting from the use of Diesel engines is the fact that in a seagoing Diesel yacht of moderate speed the fuel cost an hour for the yacht itself underway is less than for the owner's launch if of the modern high speed type.

Anyone having in mind the construction of a yacht of more than 100 feet waterline should, before determining upon the power plant, secure reliable advice regarding the Diesel engine from competent Naval Architects and Engineers who have had actual experience in the design, construction and operation of yachts fitted with this type of power.

Many questions come up that require an intimate knowledge on the part of the Naval Architect and Engineer before a



Vedette, also a seagoing craft built for F. W. Vanderbilt from Cox & Stevens designs. Her dimensions are 158 feet in length. Her power plant consists of a pair of 500 h.p. Diesel engines



Nourmahal, 163 foot Winton-Diesel powered ocean going yacht, built for Vincent Astor by Robert Jacob at City Island. She maintains 13 knots. The Winton engines are of 350 h.p. each

proper decision can be made. Among these may be mentioned:

Selection from the many desirable makes of Diesel engine of the particular engine best suited for the vessel

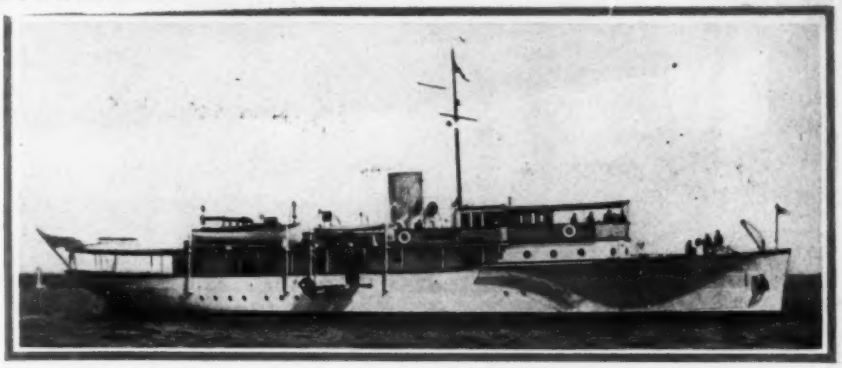
The proper design and construction of the hull to accommodate the engines selected

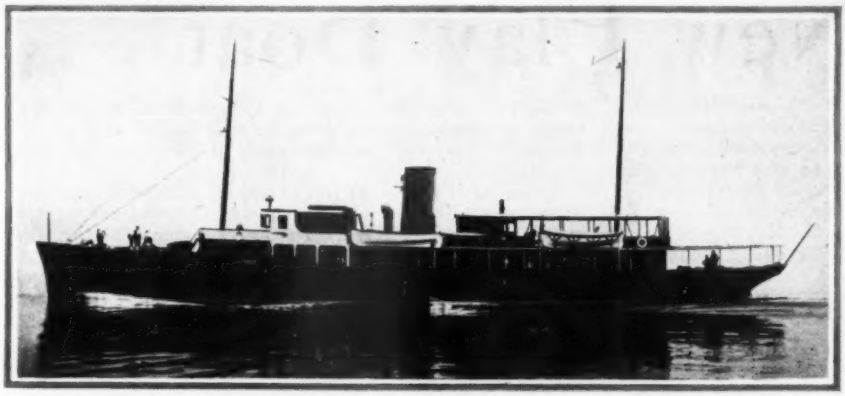
Careful choice of auxiliaries of all types

Arrangement of fuel tanks

All details connected with the location and installation of engines and auxiliaries.

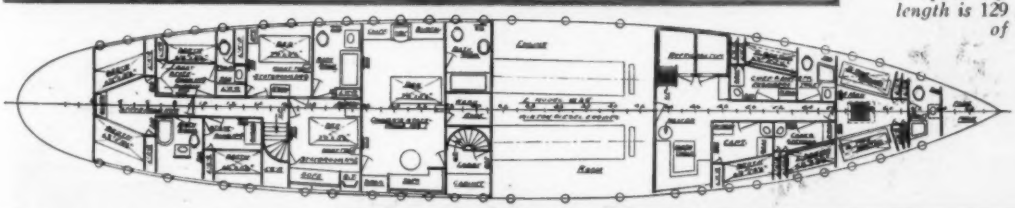
These matters bring up many and intricate problems new to the Naval Architect who has not actually handled





Dolphin, another seagoing craft built for Mortimer L. Schiff, by the Newport News S. B. & D. D. Company, from Cox & Stevens designs. She is 181 feet long by 24 feet beam, and powered with two 550 h.p. Winton-Diesel engines which drive her at 15 knots. The cruising radius is 8,000 miles

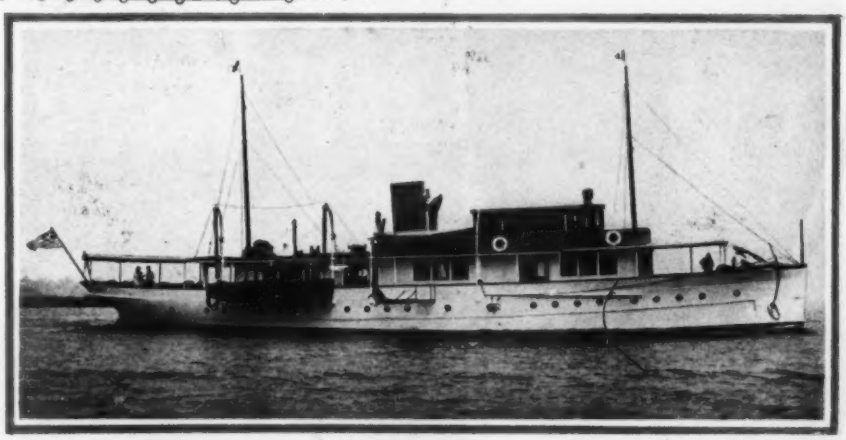
The Diesel yacht Cynthia, designed by Cox & Stevens for M. B. Mills, and built at the Todd Shipyards. She is powered with two Winton-Diesel engines, and is able to maintain a speed of 12 knots. Her length is 129 feet, with a beam of 23 feet

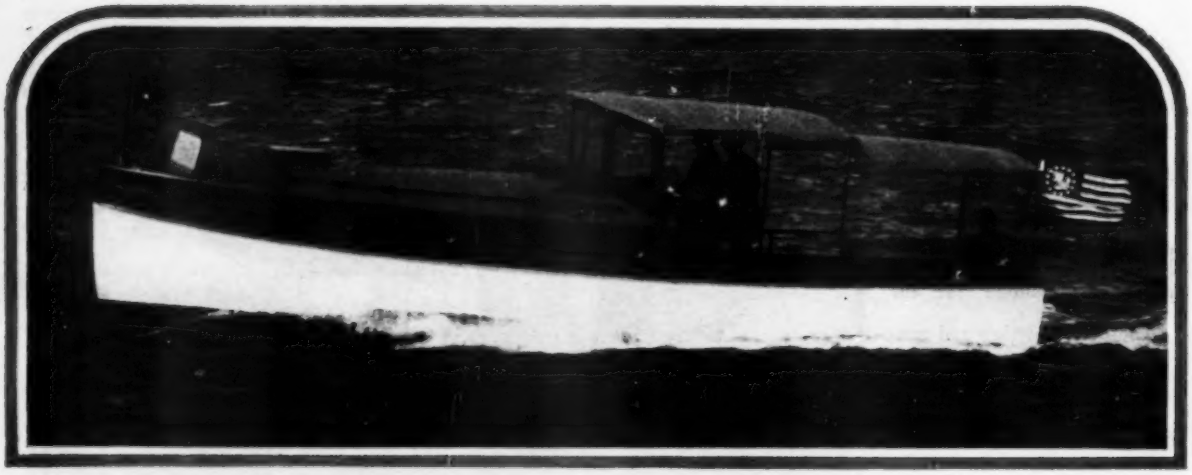


work of this character, and many and costly mistakes will unavoidably be made by those who only have before them their own experience with the installation of other types of motive power.

The question of vibration alone is of vital importance and while it can be avoided, the proper solution in any case depends upon a thorough knowledge of the subject that can only be gained by experience. For each particular hull many factors enter into the selection of the engine that will produce the least vibration. and if these factors are given

(*Continued on page* 92)





Beeswing II, a Consolidated Play Boat DeLuxe undergoing tests on the Hudson river

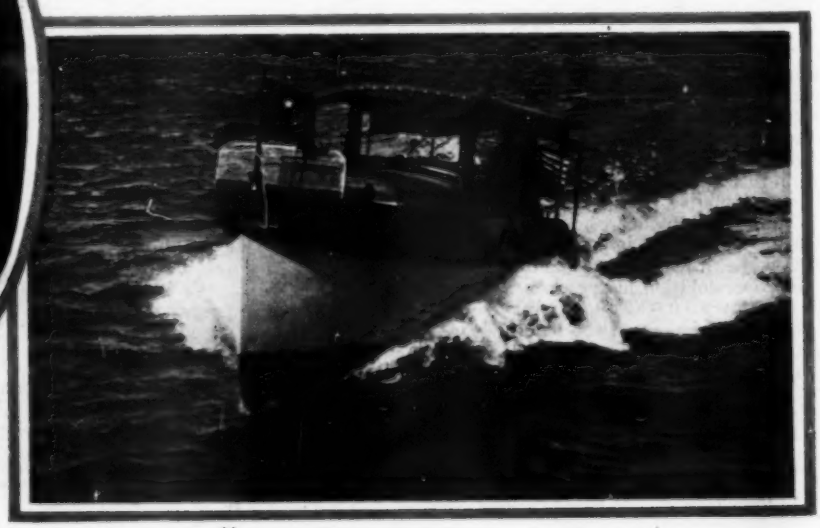
BEESWING II
A New Play Boat

JOHN J. AMORY, President of the Consolidated Shipbuilding Corporation, the originators, designers and builders of the well-known Play Boat model, personally directed trial trip tests of Paul Moore's new DeLuxe Play Boat. As a general rule, the satisfactory performance of small Consolidated built boats on trial is passed upon by their Engineering Staff. Beeswing II, Mr. Moore's new boat, was an exception. Mr. Amory's growing enthusiasm in the Play Boat design and the attractiveness of this new comer so deeply impressed the veteran builder that he determined to try out and thoroughly inspect this boat personally.

Beeswing II is only 34 feet in length. No boat regardless of length passing through the shops of Consolidated created more interest or received more pleasing commendations by visiting yachtsmen. In its originality the Beeswing II was a stock Play Boat, but the addition of refinements here and there and the installation of niceties as ordered by the owner transformed it into a yachty creation which not only retains the graceful appearance of Consolidated's larger craft but embodies the general all-around usefullness not found in any other design.

While the arrangement has been published before, it will not be amiss to repeat. The general scheme is raised deck, carvel built, copper fastened throughout, featuring a roomy after cockpit and an observation pit forward. The former will accommodate ten in a day *(Continued on page 92)*

John J. Amory, President of the Consolidated Shipbuilding Corporation, personally directed the trials



Beeswing II, flies along at 24 miles under the urge of her 180 h.p. Speedway M. R. engine

The Diesel yacht Arapahoe powered with a non-reversing Dodge Diesel engine accomplishes its maneuvering by means of a McNab-Kitchen rudder

Is The RUDDER Obsolete?

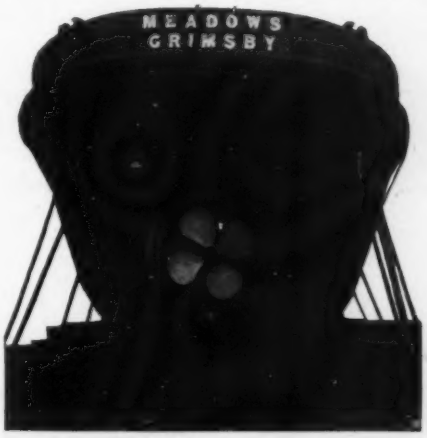
The Ease of Control Possible With a Maneuvering Device Offers Many Advantages Over the Early Type Rudder Blade

WITH all the far reaching development in the design and construction of the modern self-propelled vessel, it seems a remarkable fact that the ship's rudder has practically remained unchanged since the days of the early navigator.

Before sail was used as a motive power for ships, the Romans depended upon the galley slave to propel his unwieldy craft, the steering of the Roman galleon being accomplished by a long stern oar or sweep, which was an early form of rudder, but even before the advent of sail, the stern sweep for steering had given way to the flat form of swinging rudder, this rudder being operated by the grotesquely carved tiller, mounted high on the stern or poop of the ancient craft.

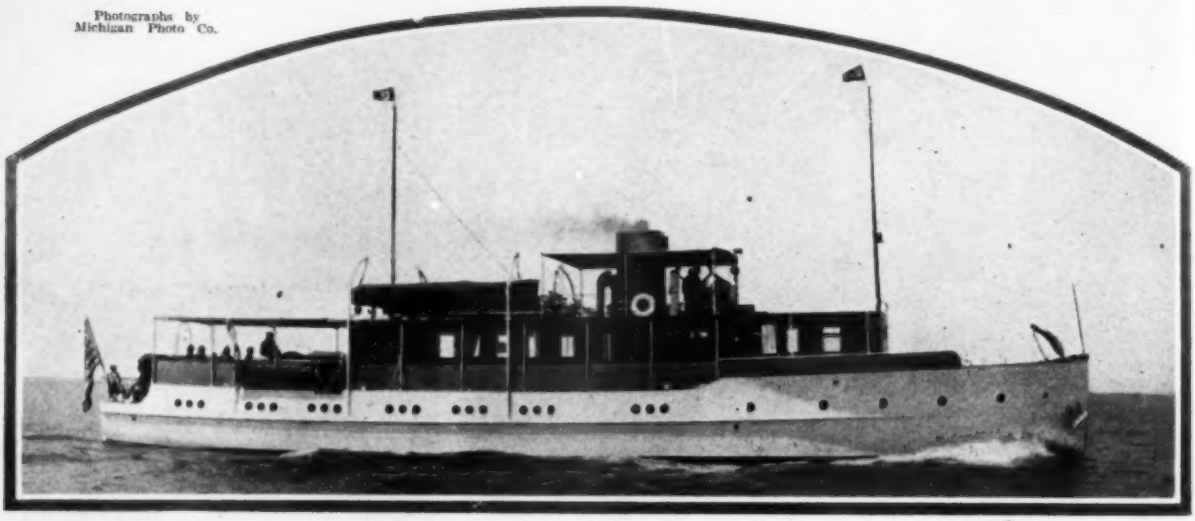
With the advent of sail as a motive power for ships, many centuries passed before direct tiller steering was abandoned in favor of the familiar ship steering wheel, this being the first step toward the modern power steering gear of to-day. As time advanced, the displacement and tonnage of ships increased to such an extent, that manual control for the steering of such ships had to be abandoned in favor of power steering control, the first of this power gear being known as the steam steering engine, which was later superseded by the steam tiller, then by the well-known electro-hydraulic gear with telemotor control as to-day installed on our modern ocean-going vessels.

The evolution of the steering gear has made wonderful strides since the days of the first tiller, it seems (*Continued on page* 96)



A large English Diesel powered barge which is given excellent control by means of a McNab-Kitchen rudder

Photographs by
Michigan Photo Co.



Reomar III, the Diesel powered cruiser built by the Defoe Boat & Motor Works for R. E. Olds

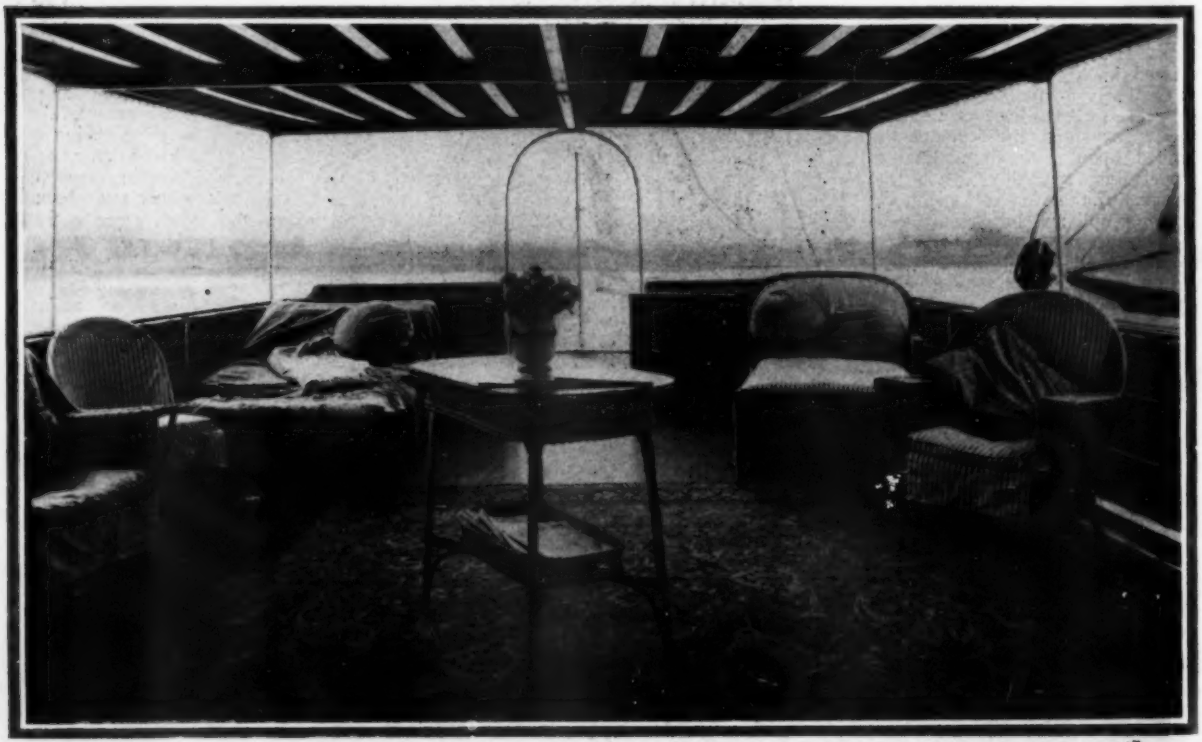
Reomar, A Semi-Houseboat

One of the Year's New Boats Designed for Long Distance Cruising and Powered with Heavy Oil Engines

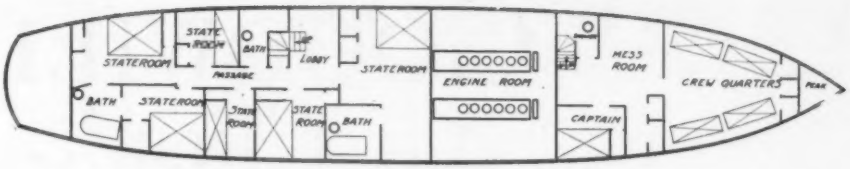
A NEW boat of the semi-houseboat type which has attracted much favorable comment during the past year, is Reomar III, the new cruiser built for R. E. Olds of Lansing, Mich., by the Defoe Boat & Motor Works from designs by Cox & Stevens, the New York naval architects. Reomar III is the fifth boat which has been designed by this firm for Mr. Olds. Her principal dimensions are: An overall length of 100 feet, beam 18 feet 6 inches, and draft 4 feet.

As can be seen from the illustrations, Reomar III gives the owner all the room, comfort and ventilation usually found in a houseboat, and at the same time, due to the strong substantial steel hull, and her form being such as to make her suitable for use in reasonably rough seas, she makes an excellent cruising craft.

Her appearance is attractive and her accommodations are



The spacious afterdeck provides an excellent place from which to enjoy the passing scenery



The arrangement plan includes excellent accommodation for the owner as well as the guests

remarkably good, while the operating cost is very low. This type of boat is certain to become very popular among yachtsmen who have had, as in the case of Mr. Olds, a great deal of experience cruising both in northern and southern waters.

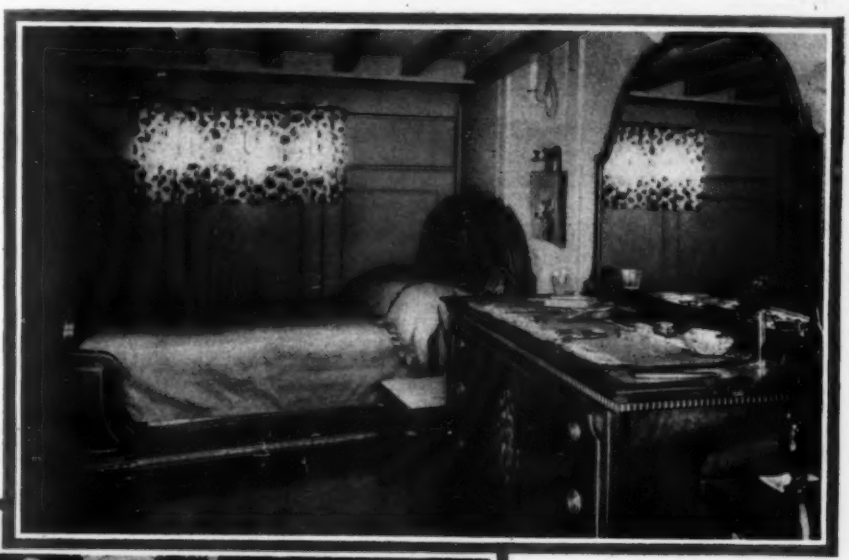
Reomar III carries her beam well aft, and her sections are such as to provide the maximum floor space within the hull with surprisingly satisfactory results. Many practical innovations have been incorporated into this craft with decided advantage. Among these can be included the grouping of the air ports, the protective cockpit aft, and the fitting of a centerboard. This centerboard does not come above the floor, and when at anchor prevents the boat from sailing around at her moorings. When underway in a beam wind, it also helps to keep her on her course.

The power plant installed in this boat consists of two 100 h.p. Mianus Diesel engines which are located slightly forward of the center of length. The engine room contains not only the main engines, but a very complete equipment of auxiliaries required for the operation of the boat. This power plant has shown that it can produce a speed in excess of 12¾ knots or 14½ miles.

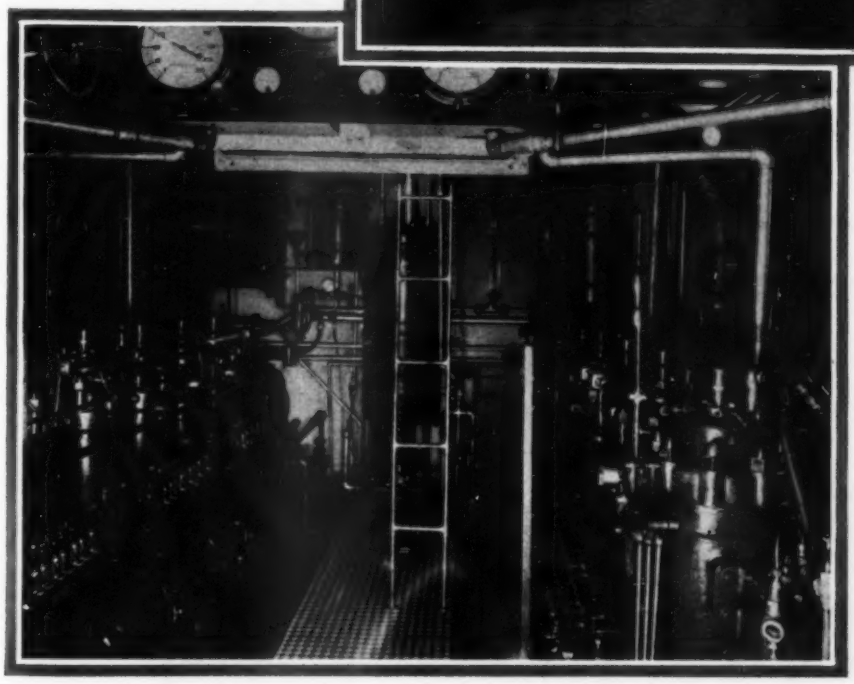
The hull of Reomar III is built of steel and she is of the flush deck type with slightly raking stem and transom stern. Her forward sections have a pronounced flare and the lines as far as possible, consistent with the dimensions of the boat, being adapted for seagoing service. The dining room is located at the forward end of the deck house with galley and pantry immediately aft. An unusually large and attractive living room is located in the aft end of the deck house.

On the berth deck the owner has, at the forward end, a very large stateroom extending across the full width of the ship, with a private bath. From this room a passageway runs to the aft end of the quarters on this deck where there is another large stateroom also, with a private bath. On the starboard side of the passage are three additional guests' rooms and on the port side one guest room, bath and a lobby into which the stairs from the upper deck enter. Three of the guests' rooms have communicating baths and there is one bathroom which opens into the passageway, making it accessible from any of the staterooms. As each one of these staterooms has large dimensions and is fitted with ample wardrobe space, lockers, bureaus, and seats for stowage of clothes and personal belongings, anyone comparing the accommodations secured on this boat, of relatively small dimensions, with what will be found on other similar vessels, cannot fail to be impressed with the economical way in which the interior has been laid out.

The quarters for the officers and crew are on the lower deck forward, and their quarters are provided with every possible convenience and comfort.



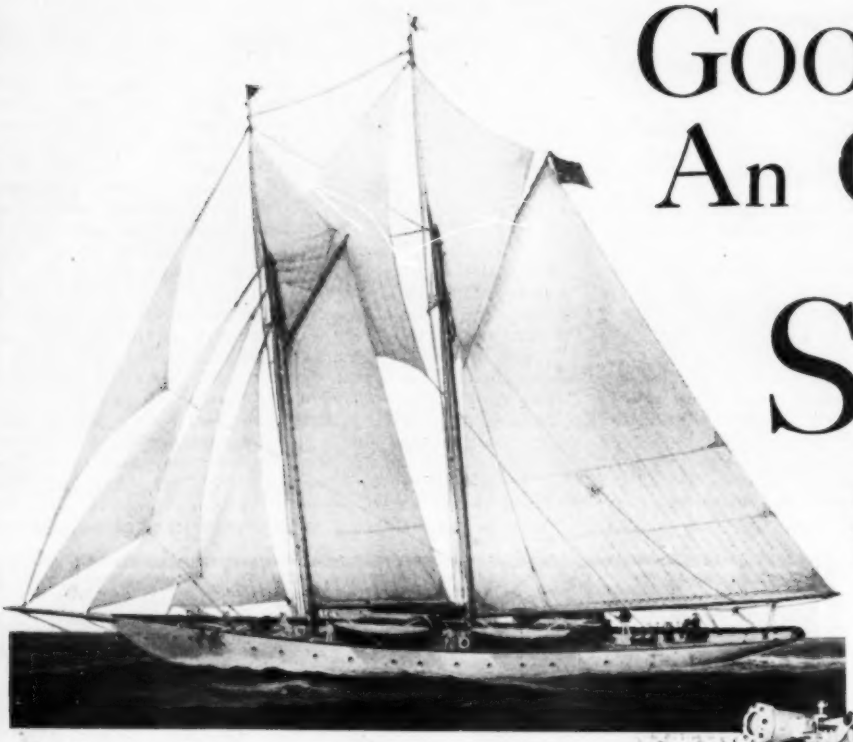
A corner of the owner's quarters which will give an idea of the luxury and good taste with which the boat is furnished



The engine room contains in addition to the two 100 h.p. Mianus Diesel engines, an unusually complete equipment of auxiliary engines

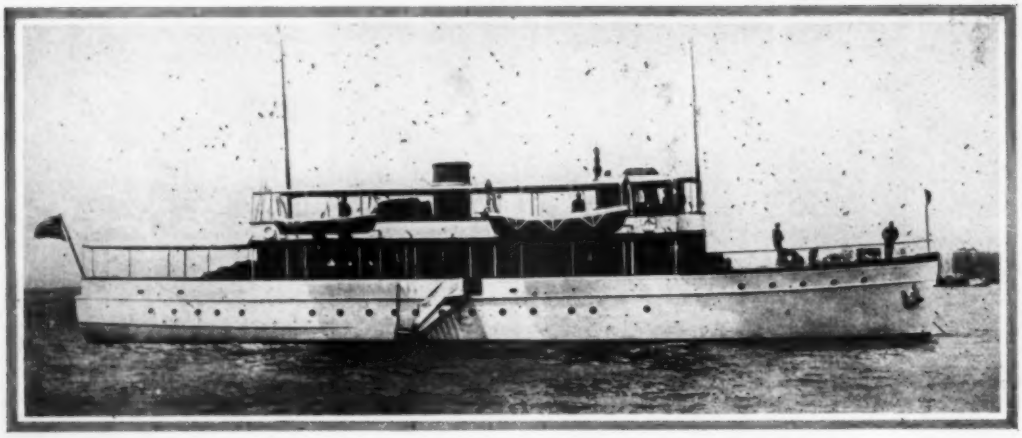
GOODWILL An Offshore *Diesel* Schooner

Sportsmen are Turning to Round The World Cruises and Trips to Remote Ports in Their Search for Recreation

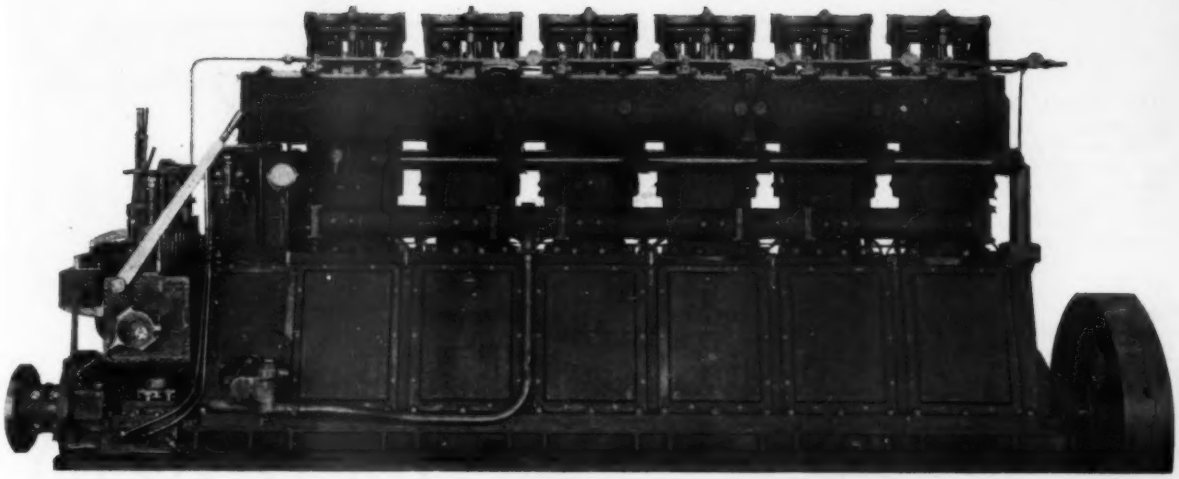


REALIZING the impracticability of visiting the remote and romantic ports of the world by the existing steamship lines, the logical course of the sporting yachtmen is to build his own deep-sea yacht. Keith Spalding is one of these, and his 161-foot auxiliary schooner yacht Goodwill was built particularly to permit long voyages of exploration. With a steel hull, the vessel has ample strength for continuous ocean cruising, and the construction throughout has the necessary strength and substance to withstand all kinds of hard weather. Goodwill was built at the Harlan plant of the Bethlehem Shipbuilding Corporation, Ltd., from designs by H. J. Gielow. The entire supervision of the construction was also in the charge of Mr. Gielow, and her maiden trip to New York, from the builder's plant demonstrated her weatherlines and strength in a gale encountered on the way. The auxiliary power plant for this boat is a six cylinder Nelseco Diesel oil engine, which develops 180 h.p. at normal speed. She has fuel capacity enough to give her a cruising radius of over 4,000 miles at full speed.

The 161-foot schooner yacht Goodwill owned by Keith Spalding and her 6-cylinder 180 h.p. Nelseco diesel engine



The 120-foot steel yacht Mamie O, powered with two 180-H.P. Nelseco diesel engines



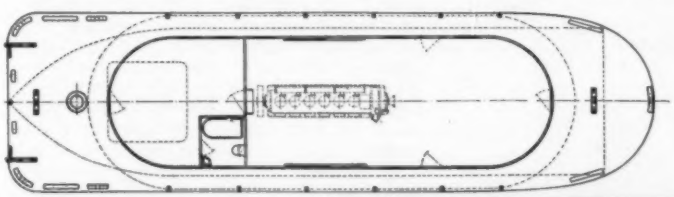
Starboard side of the new 135 h.p. airless injection full Diesel engine of the Standard Motor Construction Company

DIESEL ENGINES *for* Hard Work

Simplicity of New Engines Makes Them Desirable for Purposes Where Strength and Stamina are Essential Qualities

MUCH interest has been displayed in the recent announcement of the Standard Motor Construction Company of Jersey City, N. J., that they are building a new airless injection full Diesel engine. These machines which are built in four different sizes for marine work are rated at 90, 135, 200 and 300 h.p. The six cylinder unit which is illustrated is one of the 135 h.p. sizes, and is a reversing unit. The bore and stroke of the 90 and 135 h.p. sizes are 8½ inches by 12. The larger sizes are 10 inch bore and 14 inch stroke for the 200 h.p. engine, and 12 inch bore and 17 inch stroke for the 300 h.p. machine.

Concentrating on these four sizes of engines, the Standard Company has followed their production experience and



Plan and exterior of the 60-foot shallow draft tow boat H. S. Hennen powered with the 135 h.p. Standard Diesel engine

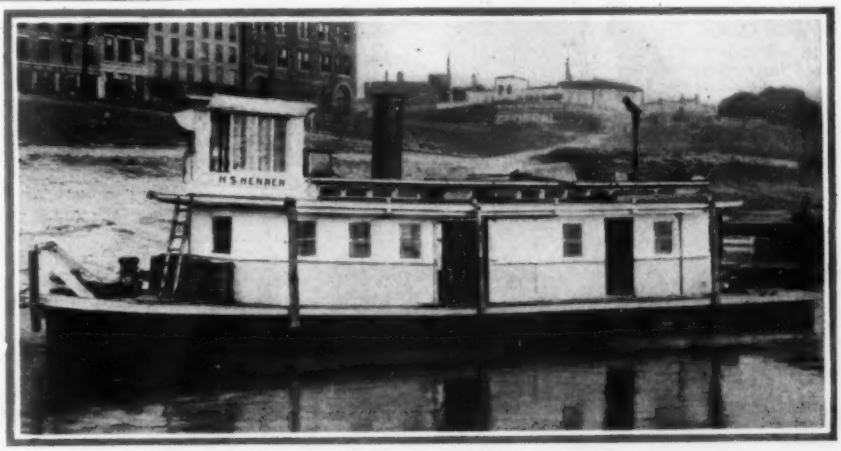
is equipped to machine castings of all sizes in jigs and fixtures, all steel parts in drop forgings of selected steels, bearings with centrifugally poured babbitt liners, and everything adapted to extreme production and modern methods, which has been unusual in the Diesel engine work, and has limited, very much, the quality and price of the engine.

It is quite interesting to note the rapid success of this company entering this field. When one visits the factory and finds that they have had continuous experience of over twenty-four years in building oil engines for experimental work of all types and models, it is quite understood that when the art had advanced to a point where oil engines were a great success, they were ready with a model which they consider equalled by none.

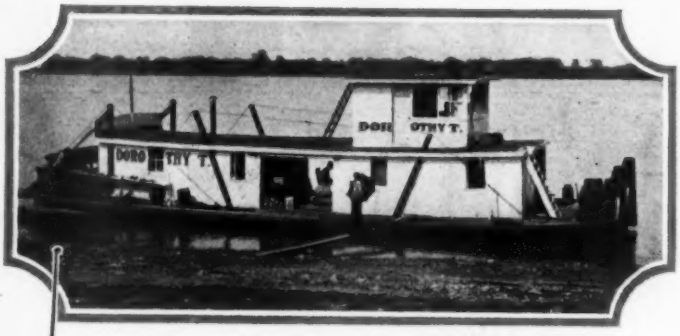
The Standard Oil engine is simplicity itself, and their claim that it is easier to operate than the modern gasoline engine is easily substantiated.

The principal is full Diesel — that is — the air is drawn into the cylinders and it is compressed to a point about 400 pounds where the temperature of compression is such that as rapidly as the oil is atomized in the cylinder, it burns, being ignited by the heat of compression. It burns expansively as the piston is driven forward on the combustion stroke. One must not confuse this with the oil engines of surface ignition as they are all of the explosive type, requiring an early injection of fuel to allow time for mixture and ignition, after which ignition there is quite a detonation and explosion of the entire gas charge.

This means that the (*Continued on page* 86)



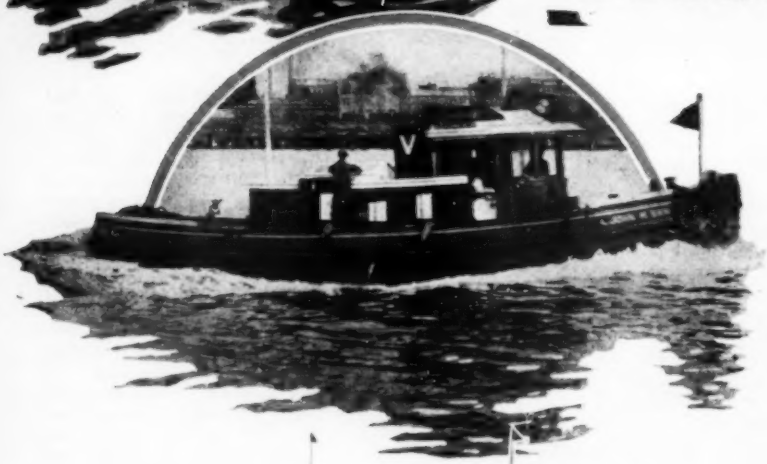
The stern paddle wheel tow-boat Dorothy, which is used in the Pearl Button Industry at Paducah, Ky., is equipped with a 46-h.p. Wolverine oil engine



The 50-foot tug Matanzas was built in Galveston, and made the journey to Cuba under the power of its 70-h.p. Wolverine crude oil engine

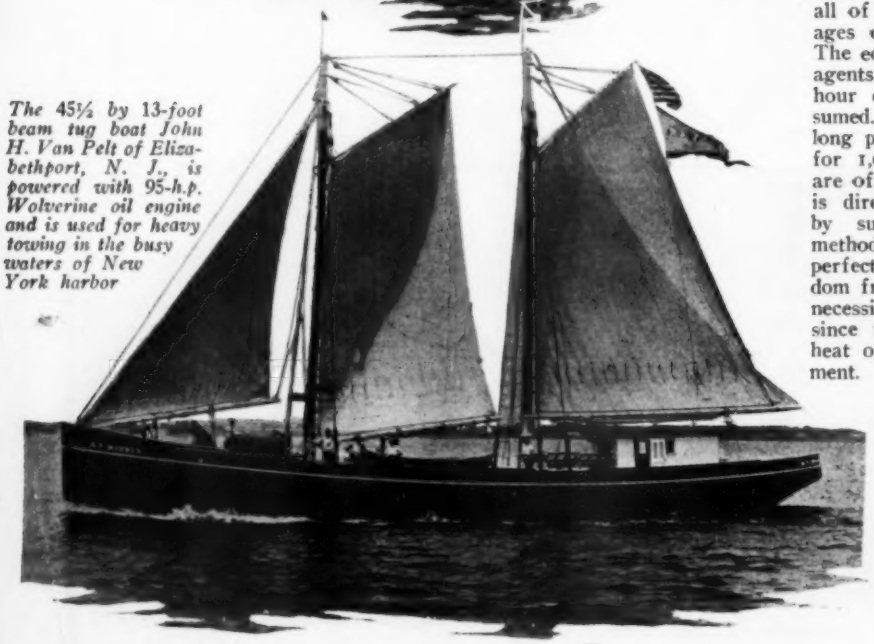
ECONOMY *in* Crude Oil Power

Increasing Need for Power Among Commercial Craft is Satisfied by Reliability of New Engines



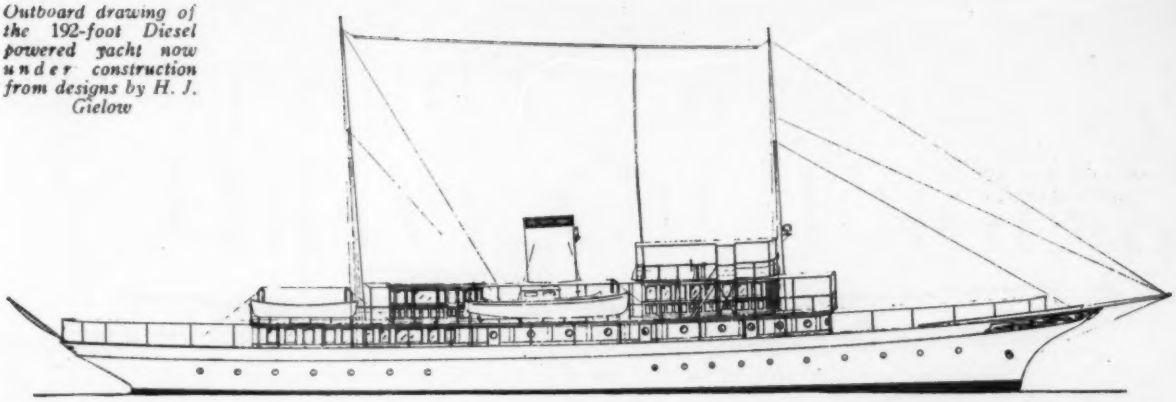
AMONG the users of commercial craft, who must have absolutely dependable power plants for service seven days in each week, the economy and efficiency of the crude oil engine is becoming more and more appreciated. The boats illustrated here are all engaged in occupations where stamina and power are essential. Having selected Wolverine engines, they are assured of all of these requirements. The advantages of Wolverine engines are many. The economy factor is high, since these agents are able to deliver 15 h.p. per hour on each gallon of fuel oil consumed. The lubricating oil lasts for long periods, and one gallon will serve for 1,000 h.p. hours. These machines are of the four cycle type, and the fuel is directly injected into each cylinder by suitable pump mechanisms. The method of burning the fuel results in perfect combustion with an entire freedom from carbon deposits. There is no necessity for torches or spark plugs, since the ignition takes place by the heat of compression at the proper moment. The starting is by air pressure, and the design of the engine is such as to permit instant starting from the cold condition.

The 45½ by 13-foot beam tug boat John H. Van Pelt of Elizabethport, N. J., is powered with 95-h.p. Wolverine oil engine and is used for heavy towing in the busy waters of New York harbor



The fishing schooner A. F. Warren of Pensacola, Fla., is powered with a 150-h.p. Wolverine oil engine and makes long journeys to the Campeche Banks in the Gulf of Mexico on fishing trips for red snappers. The boat is 91 feet long, 22 feet beam and 12 feet draft

Outboard drawing of the 192-foot Diesel powered yacht now under construction from designs by H. J. Gielow



Why the Diesel Yacht is BEST

The Naval Architect's Reasons for Selecting the Diesel Engine as Power Plant for the Modern Deep Sea Cruising Yacht

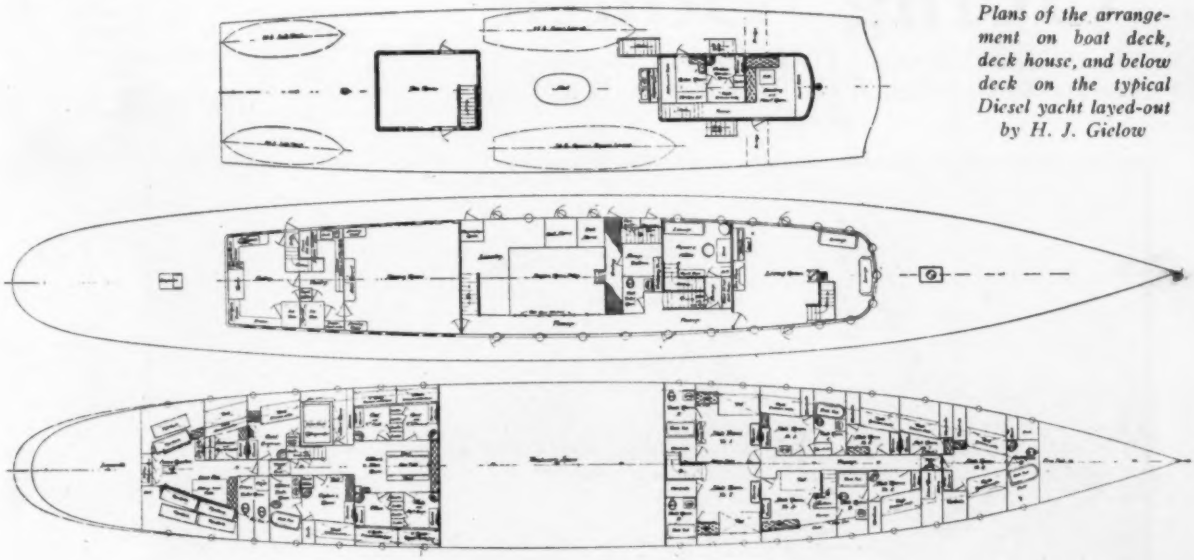
By Henry J. Gielow

IN preparing the design for the construction of a modern steel motor yacht, the outstanding features are made the seaworthy qualities, and a suitable speed for the purposes intended which can be considered to be a cruising speed of 15 miles, with a maximum sustained speed of 16½ miles. The considerations of size and other factors determine the length on the waterline as about 165 feet, modeled for deep sea work and able to carry sufficient fuel for a continuous run to Southhampton, England, in about 12 days. These qualities practically limit the beam and draft, for, in order to get the necessary space for owner's and guest's accommodations, machinery, and officer's and crew's quarters in suitable proportions, with sufficiently fine lines to keep the wave making factor as low as possible, thereby saving power and weight, fuel, and operating costs.

Concerning the beam it may be said that within moderate limits, it exerts much less influence on the speed than is generally believed. It may be stated in general that great beam and small draft will make an uncomfortable boat by reason of its quick snappy roll, while the deep narrow craft will roll less, but will be wet or even dangerous. With the length and beam determined, the draft is the third dimension, and is based on the weight to be carried. If yachts were built with flat bottoms similar to cargo vessels, the draught would be comparatively light, but as it is essential that the sections in the forebody must be of sufficient sharpness to plunge into a head sea without pounding, we have provided the full amount of draft permissible to insure proper steadiness in a seaway, and at the same time reducing the leeway in a heavy beam wind and sea.

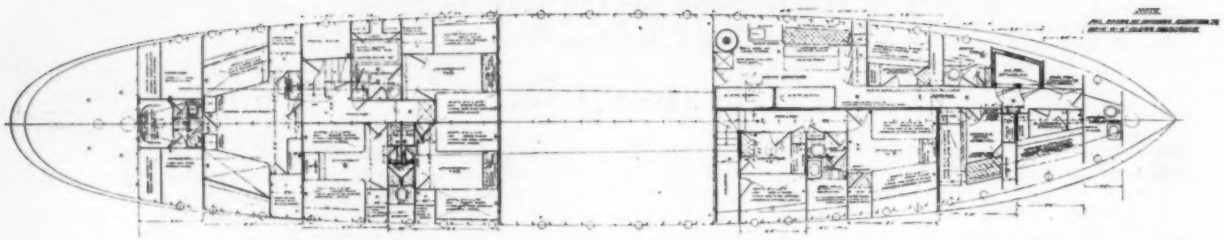
The speed is governed largely by the form of the under body of the vessel, which should be designed so as to have a minimum of wetted surface, which is the only resistance factor at low speeds, up to about 11½ miles. Above this speed, wave making and eddy making become factors, and the underbody must be designed to reduce these to a minimum.

After consideration of the form, seagoing qualities, and structural details of the hull, the propelling is the next in order, and may be considered under two heads, viz: a steam plant or an internal combustion engine plant. Since it will require 1,200 shaft horse-power to drive this yacht at a speed of 16½ miles, we find that for a steam plant, it will require a fore and aft space for (*Continued on page* 122)



Plans of the arrangement on boat deck, deck house, and below deck on the typical Diesel yacht layed-out by H. J. Gielow

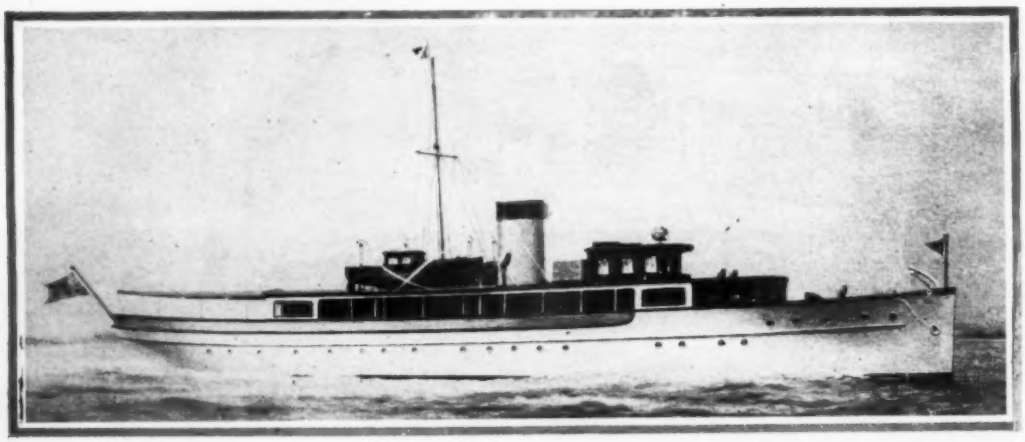
A 119-foot steel yacht being built for W. O. Briggs of Detroit, powered with two 230 h.p. Winton engines



New DIESEL YACHT Going South

The Maiden Voyage of a 119 Foot Diesel Yacht Rapidly Nearing Completion, Will Take Her to Miami This Winter

UNDER construction at the yards of the Consolidated Shipbuilding Corporation is a Diesel yacht of 119 feet length, designed by John O. Wells of New York, for Walter O. Briggs of Detroit. This boat is to be powered with two 230 h.p. Winton Diesel oil engines, which will provide her with the necessary speed and reliability. This boat is to be entirely of steel with six water tight compartments, teak decks and trim. Ample quarters have been arranged for the owner to suit his conveniences, and the necessity of the service in which the boat will engage. Forward of the engine compartment are additional guest rooms with connecting bath intended (*Continued on page* 134)

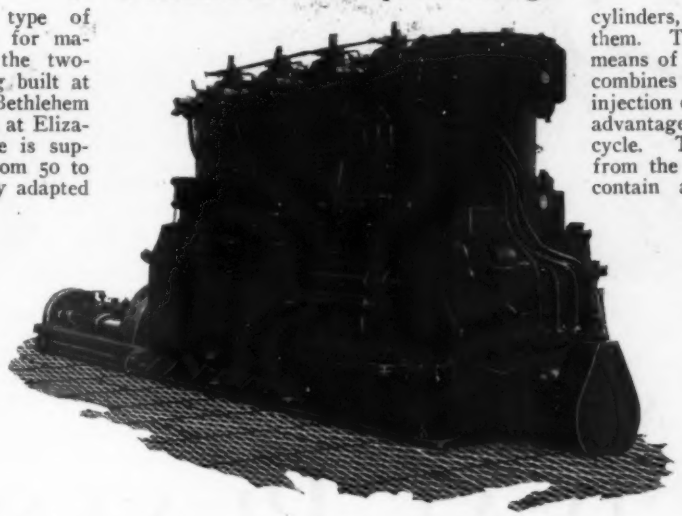


Lura M II, A smaller diesel yacht being built for W. A. Fisher of Detroit

Simplicity *of the* Heavy Oil Engine

The Oil Engine of Today Is a Type of Prime Mover Which Has Long Since Passed the Development Stage

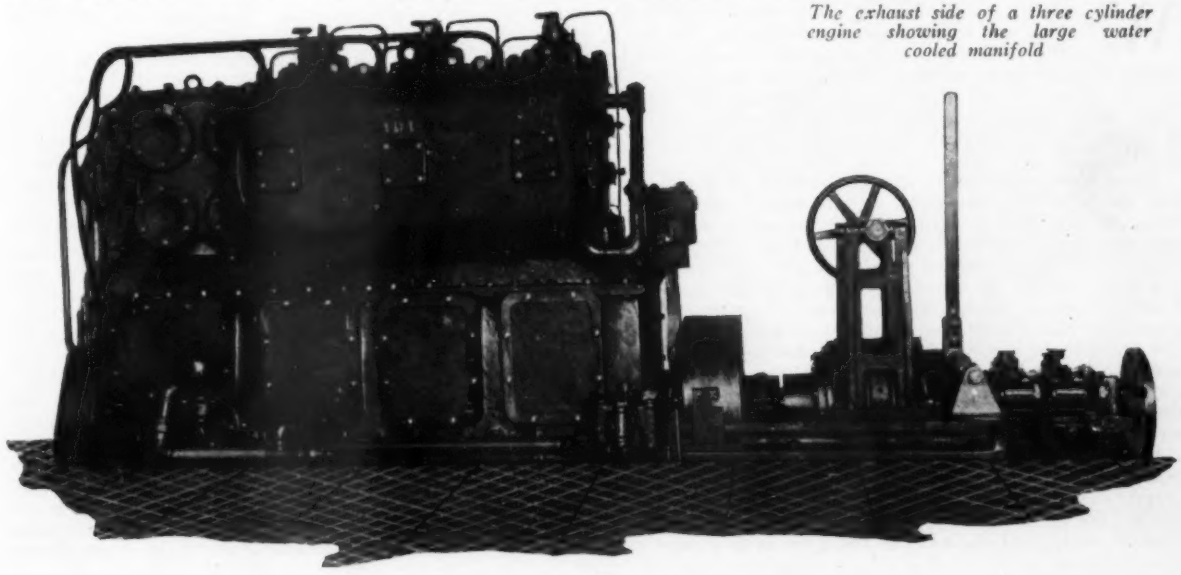
AN IMPROVED type of heavy oil engine for marine service, is the two-cycle machine now being built at the Moore plant of the Bethlehem Shipbuilding Corporation at Elizabeth, N. J. This engine is supplied in sizes ranging from 50 to 480 h.p., and is especially adapted for the use of tugs, barges and yachts. It operates on the two stroke cycle, which gives a power impulse in each cylinder at every revolution. Air is compressed in the cylinder to 450 pounds pressure on the upstroke of the piston, which provides sufficient heat to ignite the fuel oil when it is injected. On the power stroke of the piston, the gases expand, doing work until the exhaust port in the side of the cylinder wall is uncovered. The exhaust gases escape, and immediately the scavenging air ports are uncovered, and the cylinder is cleared of burned gas, and is charged with a fresh supply of air for the next compression stroke.

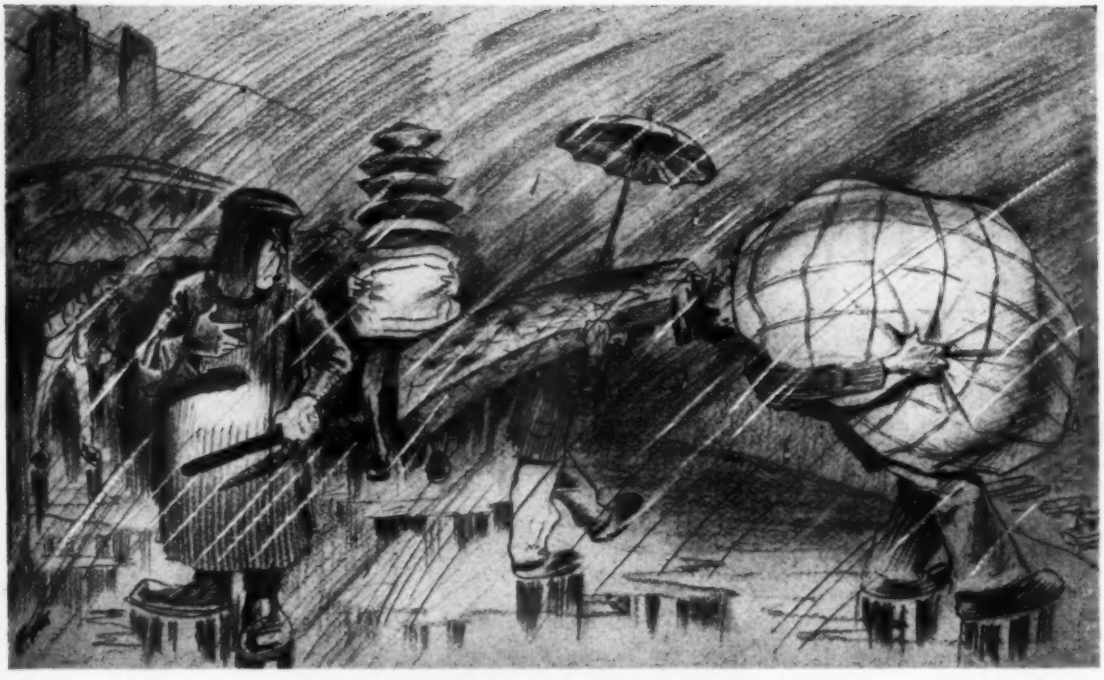


The fuel pump side of the Bethlehem-Trout four cylinder, two cycle marine engine

An attached double action scavenging pump supplies the air, and provides an excess which thoroughly cleans the cylinders, and assists in cooling them. The fuel is injected by means of the Leissner system, and combines the simplicity of airless injection of fuel, together with the advantages of constant pressure cycle. The pumps are driven from the engine crank shaft, and contain a separate plunger for each engine cylinder. The proper amount of oil is forced to the fuel spray valve, and reaches a precombustion chamber in the head of each cylinder. The heat of compression ignites the oil here, which sets up a higher pressure, and forces the unburnt oil through a perforated tube into the main combustion space. The rate of combustion and maximum pressures are controlled by the rate of fuel injection, and is so controlled that the combustion in the cylinder follows the constant pressure cycle. There are no mechanically operated valves, and the engine is free from camshafts and rocker arms. Starting and reversing are accomplished by means of compressed air admitted to the cylinders by a simple control system. Any grade of distillate fuel oil will burn readily in this engine, and the consumption of fuel is remarkably low.

The exhaust side of a three cylinder engine showing the large water cooled manifold





The automobile it was not then used as a moving van for boat supplies, and they carries about a ton of blankets aboard what all gets wet and that never does get dry the whole season

Huck Says

Percival Platnumb Takes to Yachting

WELL Chap, motor boating is not what it used to be. I does not refer to your publication. It would hardly be fitting for me to do so. It would not be proper-like for me to say that as a business manager you is a great success—your advertising it is great stuff, I always reads them—but as a editor, especially since you publishes a series of alleged funny articles, you has water in your gasoline.

What I was referring to was the SPORT of motor boating, not your magazine and I repeats what I says the first time, it aint what it used to be. Nowadays, ANYONE can own and ANYONE can run a boat. For a small amount of money, any feller he can get title to either a sea going cruiser in which his large and ever increasing family it can be safely transported, or a gentleman's runabout, in which a gentleman or otherwise, depending on who the feller is, he can runabout at a terrific speed. All you needs is enough brains to look and see if they is gasoline in the tank, without using a lighted match to find out. After that you merely steps on a button and the thing runs and you steers until you gets where you wants to go.

Back in the old days, in order to get anywhere in a motor boat you has to have either a lot of money or a lot of brains. If you has the money, you hires the brains. You also has to have great strength, perseverance, a complete knowledge of mechanical engineering and a lot of first hand experience with the plumbers' art. Even then you sometimes gets stuck.

I has in mind, particular, the experiences of one Percival Platnumb back in the year 1905. Percival, he was one of them Harvard boys and he comes of a very good New England family. The men of the family they always has stood somewhat in the background socially as is customary, but they works hard and produces sufficient cash to enable the females to do their stuff. The women, they possesses a certain delicate and disarming attractiveness in early life long enough to hook some socially desirable male into those holy bonds of matrimony. After that they eats like pigs, they develops great displacement, a pronounced bow and stern overhang and by the time they is forty, they has the proportions of a first line dreadnaught and the warlike manner what is so necessary to social supremacy. Percivals mother, she was one of these. Her only weakness it was Percival.

Now Percival, he was quite regular. He gets into the Institute, the swell club in college that is only open to the elect. He knew exactly when to say "Not Rearly" in a voice like he had catarrah and he has that kind of a head what he stuffs the things he hears in his college lectures into and then he pours them all out into his final examination paper and then they is gone for all time, they is. Otherwise Chap, he was dumb, plain dumb. Percival, he comes across

a copy of MoToR BoatinG and he immediately gets dizzy with the idea that he wants a motor boat. His father he frowns on the scheme but his mother she casts the deciding vote and the boy he is told he can buy a boat, but father he stands out for $2,500 as the limit on price.

All excited he visited yacht brokers and yacht yards. It was early spring and when the sun was out, the steam from the wet mud alongside the boats, it gets into his system and he wiggles his nose like a rabbit what was just taking his first look at a juicy piece of lettuce. Now finally he found a boat what came within his price. She was twenty five feet long and her name it was NAUSEA carved on the bow. Mrs. Platnumb she objects serious-like to that name but Percival hears it is bad luck to change so he sticks to it regardless. He didn't know nothing about boats at all. He gives no thought to the engine. He sees that they is a engine in the boat and he supposes it will run. He picks Nausea because she has a cabin. They was only three foot headroom and if you tried to walk around in it, stooped over like a gorilla, you scrapes all the knuckles of your backbone on the carlins, but it was cabin and about big enough to change your mind in.

Aft of a chest of drawers in the bow, they was two cabins about eighteen inches wide. Ordinarily these cushions they was very flat but they could be blown up with a few strokes on a air pump. They was not so comfortable. When they was full of wind, they pressed into your kidney when you lay on your back, which was the only way you could lay. If you tried to lay on your side, the air it would skid you and you either lands on your back again or you lands on the floor on your face. .At first the cushions they holds the wind pretty well but in due course, certain female guests, they jab their hatpins into it while they is arranging their hair after a afternoons outing. After that you wakes up in the morning with your shoulder blades and the end of your spinyul colyum sticking into the wood, paralyzed for life.

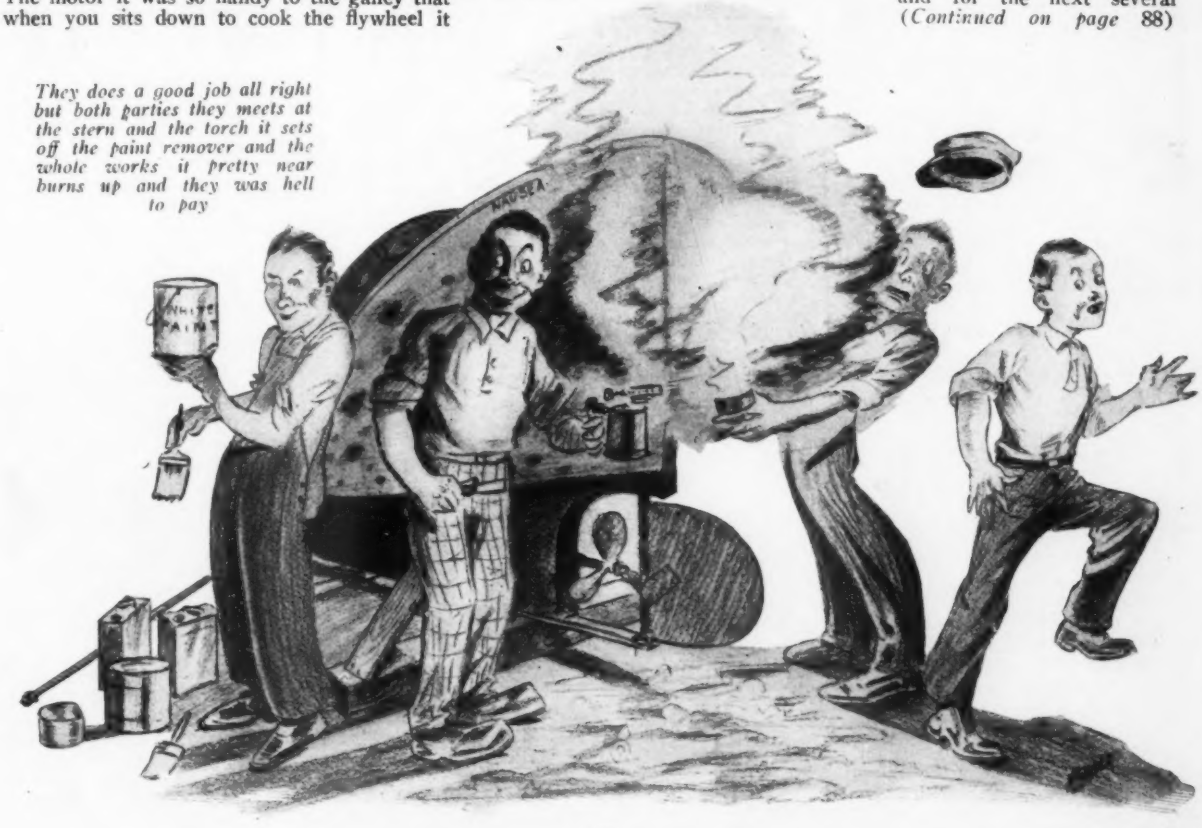
The galley it consisted of a two burner kerosene stove what takes both prayer and patience to start and after it gets to burning it roars like a blast furnace. The ice chest it was under the stove and a helluva fine place to keep ice. The motor it was so handy to the galley that when you sits down to cook the flywheel it soon wears through your pants and starts grinding sparks off'n your hipbone. This flywheel it was just in the right position so when you starts down cabin it either throws a gob of oil on the right sleeve of your new negligay shirt or into your eye. One or the other, but of course Percival he was too thick to see those possibility. The motor it was a Unbalanced Two, so popular in them days. On one side of the cylinders they was a enormous sight feed oiler with a slew of copper tubes running to all kinds of places. I never understand why they calls these devices Sight feed, unless the feller what invented them thought he was funny. They puts them on the engine so you doesn't see them anyway and the little glasses, they immediately gets so clogged up with goozum that you has to depend wholly on your imagination to know what it is all about. On the top of it they was a filling spout about the size of a little finger and one of the great sports they has when they is underway is to see what percentage of a can of oil they can pour into the thing as against what runs down onto the flywheel and gets slung all over the cabin.

The cockpit, it was just about big enough to keep a couple roosters in comfortable. They was two seats along the side with backs what came up just high enough to catch you across the kidney. In fact these earlier boats, they was very hard on the kidneys and I wonders that all the yachtsmen of them days didn't die of some such complaint. They was a steering wheel in one corner about the size found on a tin lizzie, a couple of dinky spark and throttle levers and a handle for the reverse gear what stuck out through the back of the cabin such that it always got tangled up in your legs. The forward freeboard it was not over three feet and aft they wasn't any at all to speak of. The top of the cabin it was so crowned that unless you was a good tight rope walker, you slips overboard when you goes forward to handle the anchor. The equipment it included a six foot dingy about the size of the little Guava what I told you how to build awhile ago. It was possible and just barely possible to get into this tender and not have it dump you overboard.

Well Chap this was the boat what Percival bought. He gets all his friends together and for the next several

(*Continued on page* 88)

They does a good job all right but both parties they meets at the stern and the torch it sets off the paint remover and the whole works it pretty near burns up and they was hell to pay



Elcarujo,
A Clever OUTBOARD CRUISER

A Complete Working Design and Specifications for Building One of the Most Unusual and Complete Little Boats of Its Kind

Designed Especially for MoToR BoatinG

by
William Atkin

ELCARUJO, the combined effect of syllables taken from the names of our most prominent outboard engines, El to, Ca ille, Evin ru de, and Jo hnson, has been given to this unusual little boat. While the name may not be a pretty one, at least it stands for something, and that is a worthy consideration. But more than this, is not the notion of a small cruising boat propelled by two of these marvelous little motors a happy thing to conjure with?

Of course she is a little boat and she must be, because the amount of power that can be installed is limited by the power of the motors available. Roughly we will have about 6 h.p. with two outboards in her stern, and 6 h.p. in this craft will be ample for a speed of approximately 6½ miles an hour. A modest speed to be sure, but quite enough for the man of simple tastes who has the wisdom to know that it is not always speed that gets folks where they most wish to go. In overall length Elcarujo measures 23 feet 1 inch; her breadth is 6 feet 6 inches and her draft under the keel 1 foot 5 inches. The longer type of outboard motor as made by Elto will bring the draft to 1 foot 6 inches, but since these motors are fitted to swing up aft the boat will be able to cruise in very shallow water.

Much thought has been put into the design of the hull with an idea to produce a seaworthy and easily driven craft. It will be evident to those who keep posted on these matters that the hull is not very different from the Gordon 35 footers which were designed some months ago; and the Gordon boats quite come up to expectations both in the matter of speed and their ease in a seaway. A cruising boat must be comfortable first, and this naturally means that she must be able and dry in rough water. We make a great mistake in our boats by tricking them up with a lot of windshields and automobile trimmings. We have too much top weight on our boats, they are too heavy where the weight should not be, and too light where the weight should be.

The installation of outboard motors in a boat of this type is not the simple matter it seems at first hand. The great trouble lies in the fact that all the outboard motors are designed to be used on small craft which have very little freeboard, especially at the stern. If in Elcarujo we attempt to clamp the motors on the stern the propellers will be entirely out of water, and this would not get us anywhere. In a boat of this character it is not feasible to cut jogs in the stern board so as to bring the motors low enough to be effective; there would be danger of swamping the boat in the first stretch of rough water met. And then another thing to consider is that excepting here at Huntington Harbor, where I live and where everyone is honest, the motors, if left exposed on the stern in the evening, would have wandered off somewhere by sunrise. Things of this kind do happen, especially near the big cities. And so the arrangement shown on the plans has been devised.

This tucks two motors under the after deck where they can be locked up snug and dry without having to be scattered about in the cabin when not in use. One of the advantages of this little cruiser is the fact that the cabin and the cockpit are quite bare of a motor, of tanks, of batteries; in fact of any machinery whatsoever. And this is fine. The after end of the boat for a length of 3 feet is bulkheaded from the rest of the ship as shown. And the motors rather than being outside are clamped to a panting piece which runs athwartship for this very purpose. Two wells not unlike center board trunks are built in the bottom for the purpose of allowing the propeller shafts and rudders of the outboard motors to protrude down into solid water. The after end of these trunks is left open. This will permit the motors to tilt, supplies an outlet for the cooling water and the exhaust gases (where under water exhaust is not provided, exhaust will be led out through flexible tubing) and in addition leaves a free run for the wash from the propeller. If the stern was left closed a lot of water would boil up over the top of the trunk. While not shown on the plans it is intended to use a cover over the tops of the trunks leaving only enough room for the working of the rudders. There are several details which would have to be changed somewhat depending upon the kind of motors used.

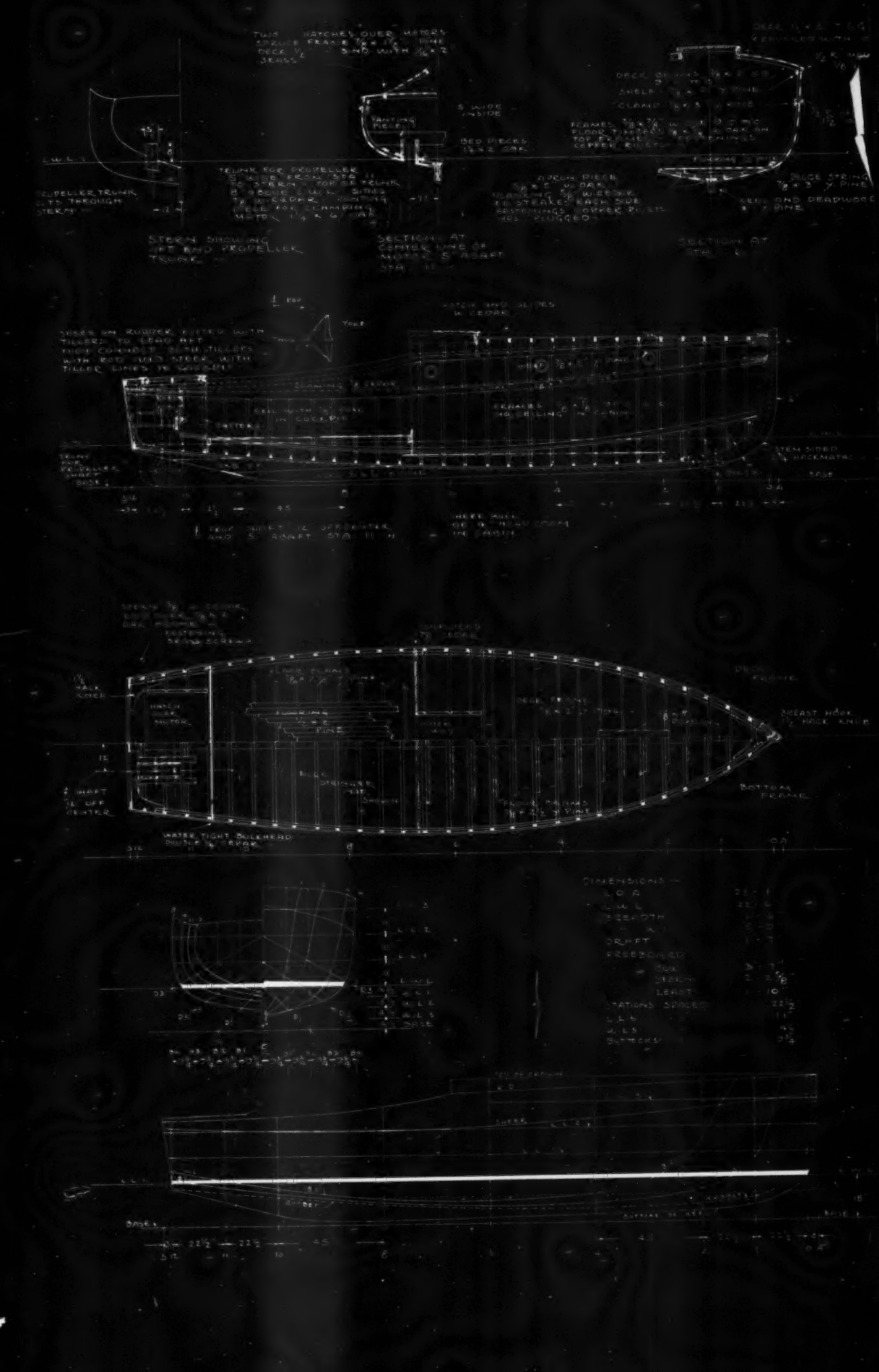
There will be ample room in the motor compartment for batteries, tools and a 5-gallon tin of gasoline. The hatches on deck will be after the manner of those we use on our runabouts, and are big enough to give easy access to the motors. Both rudders should be coupled together with a yoke or some other means and the boat steered by a tiller line running around the cockpit. The latter is the simplest and the best way to steer a small boat of any kind, and incidentally saves the price of a wheel and the things that are needed with it. It would be well to fit a slow speed self bailer in the motor compartment for then any water that might splash over the top of the wells will as gracefully find its way out through the bottom. Needless to say the bulkhead *must* be water watertight.

With the motors hidden away in the stern we have the rest of the boat to live in. Seven feet 1 inch is taken by the cockpit; 3 feet 2 inches by the galley on one side and toilet to starboard; 6 feet 3 inches for bunks; and the

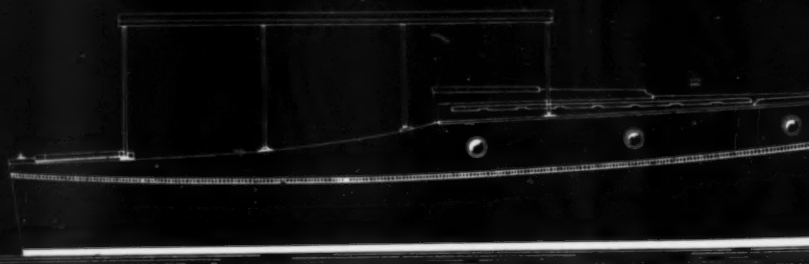
A Surprise Next Month

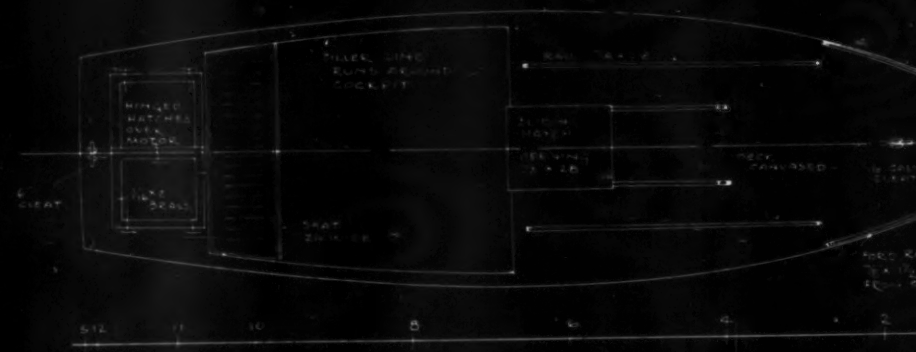
An unusual craft has been designed for MoToR BoatinG readers by Mr. Atkin, and will be published in the big January Show number. This boat is a power-driven scow type cruising houseboat, 44 x 14, and arranged to serve as the summer or even the year around home for the entire family. It is provided with spacious deck and outdoor accommodations, while the interior arrangement provides comfort and ease for the owner and guests. A substantial heavy-duty power plant is installed to give the craft mobility and enables it to change its anchorages and cruise about at will. Naturally it is not intended as a speed craft, but its power plant is ample to make it independent of tow boats, as many boats of this type are not equipped with engines. Be sure to watch for this unusual design in the January number.—Editor.

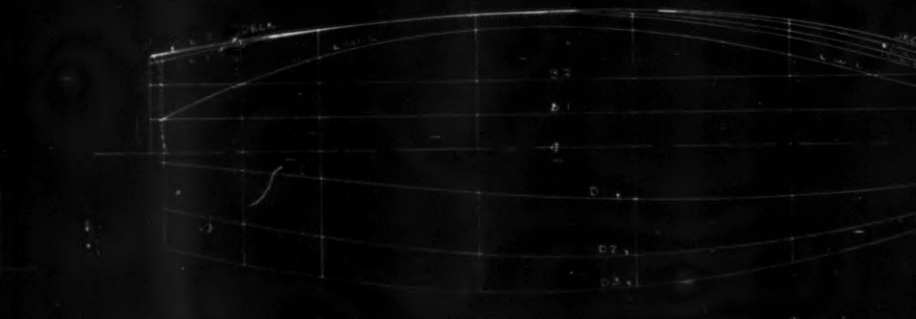
1/2 HP


TWIN MATCHES OVER MOTORS
SPRUCE FRAME
DECK
BRASS
SAND WITH
5 WIDE INSIDE
TRUNK FOR PROPELLER
STERN SHOWING SET END PROPELLER TRUNK
SECTIONAL AT CENTER LINE OF MOTOR 5 APART
SECTIONAL AT
KEEL AND DEADWOOD
YOKE
STEERING
SEATS
FRAMES
STEM SIDED
SHAFT
HOLE MUST BE 8 HIGH FROM IN CABIN
BREAST HOOK
BOTTOM FRAME
WATER TIGHT BULKHEAD
DIMENSIONS
L O A
L W L
BEAM
DRAFT
FREEBOARD
AT
STERN
LEAST
STATIONS SPACED
L L S
W L S
SUPPORTS
BASE

SHELVES
LOCKERS UNDER SEAT
SEAT 10" ABOVE FLOOR
ENGINE COMPARTMENT
COCK PIT
ICE BOX
SHELVES




HINGED HATCHES OVER MOTOR
SEAT



ELCARUJO

A TWIN SCREW OUTBOARD MOTOR CRUISER

Designed Especially for

MOTOR BOATING

119 West 40th Street,
New York, N. Y.

by

WILLIAM ATKIN

MOTOR BOATING'S
BUILD A BOAT
Series

Scale 3/8" = 1'

23'-1" x 22'-6" x 6'-6" x 1'-7"

bow end of the boat for hanging space and shelves. I have not tried to get headroom in the cabin; there is 4 feet under the deck carlins and this is enough for a small boat. It is impossible to combine full headroom and seaworthiness in a boat only 23 feet long. Another thing, the freeboard must be kept down where limited power is used for windage is a serious item and cuts in on the speed more than one imagines. Just so long as one can sit upright in the cabin of a small boat it is comfortable; at any rate please do not raise the topsides, change the deck crown or alter the design in any way. Elcarujo will prove successful if she is built as is, and will likely be a failure if monkeyed with and improved.

Like every other boat that is to be built the lines should be laid down full size on the floor for without this preliminary work it is impossible to build a boat to plans. There are no short cuts for the boat builder and if certain things have to be done they have to be, and that is all there is about it. So therefore gather up your chalk line, try square and foot rule and lay the lines down. The dimensions for accomplishing this are all given in the table of offsets which by the way are to the outside of the planking, and the planking is ⅝ inches thick.

The keel will be sided 3 inches and made of yellow pine with deadwood and stem of the same lumber and dimensions. The keel fastenings will be galvanized iron bolts ⅜ inch in diameter. Considerable work will be saved by not having to bore for a shaft alley and the complications that the propeller post injects into the construction.

There will be an apron piece along the top of the keel and deadwood which will form a rabbet for the inner edge of the garboard strake. The apron will be made of ⅝ inch by 5 inch white oak and should be in a single length. It will be screw fastened to the keel and deadwood.

The clamps will be made of yellow pine sided ⅞ inches and moulded 3 inches and in one length, of course. Forward there will be a breast hook 1½ inches thick made of an oak or hackmatack knee. Apple wood can be used also to advantage here. Knees should be fitted aft as well, and of the same description.

There will be a shelf under the deck carlins as shown made of ⅞ by 2 inch yellow pine. The after portion of this drops down to form the under capping in the cockpit rail.

One bilge stringer will be sufficient each side and these will be made of yellow pine sided ⅞ inches and moulded 3 inches. The fastenings through the frames should be copper boat nails riveted over burrs, one to each frame.

The frames will be ⅝ by ⅞ inch steam bent oak set on 9 inch centers. They should be bent on the flat. Fastenings into clamps and shelfs will be copper rivets. At the keel the frames will be fitted with floor timbers made of ⅝ by ⅞ inch oak and fastened thereto with copper rivets. The floor timbers should extend out in the bilge about 2 feet each side of the keel. The heels of the frames will be fastened to the keel and deadwood with 2 inch boat nails.

The planking will be laid with ⅝ inch white cedar having 18 to 19 strakes on each side. The fastenings here will also be copper rivets having heads countersunk and plugged with boat plugs. Planking must be laid smooth and have the inner face hollowed so as to fit the frames snugly.

The stern board will be ⅝ inch cedar laid over an oak frame, the frame being made of ⅞ by 2½ inch stuff.

The water tight bulkhead at the motor compartment should be double planked with ¼ by 4 inch cedar having a piece of muslin set in marine glue between layers. Copper tacks should be used to join the two skins of the bulkhead.

The trunks for the propellers will be 5 inches wide inside, and extend from Sta. 11 to the stern. The center of the slot will be 12 inches from the center line of the keel. The sides and heads of the trunks should be made of ⅞ inch cedar and screw fastened. The panting piece over the trunks should be made of 1¼ by 6 inch white oak and extend right across the boat. It should be securely fastened to the trunks as well as to the sides of the boat.

(*Continued on page* 126)

STATION	A	0	1	2	4	6	8	10	11	12	S
HEIGHTS											
L.W.L. TO R.D.	3-6½		STRAIGHT		TO	3-1¾					
L.W.L. TO SHEER	2-11		2-8⅛	2-6	2-2	1-11	1-10	1-10	1-10⅝	1-11⅜	1-11½
R.D. TO CROWN			0-1⅜	0-2½	0-4	0-5½					
BASE TO B 2				2-9	0-11¾	0-9½	0-10¾	1-3⅛	1-6¾	1-11¼	
" " B 1			2-1¾	1-1¼	0-7⅝	0-7½	0-9⅛	1-1⅛	1-4	1-7	
" " RABBET			0-9	0-6½	0-5½	0-6	0-8¼	0-11⅞	1-1¾	1-3⅝	
" " BOT. OF KEEL		1-6	0-6	0-4	0-3	STRAIGHT	0-1½	0-4½	0-10	1-3½	
HALF BREADTHS											
R.D.	0-0¼		1-3⅞	2-1½	2-11¾	3-3	3-2	2-10	2-7	2-4	
L.L. 3			1-2	1-11	2-10⅝	3-3½					
L.L. 2			1-0	1-8¾	2-8½	3-2½	3-2½	2-11	2-8	2-4½	
L.L. 1			0-11½	1-6½	2-6¾	3-1¼	3-2¼	2-10½	2-7	2-2½	
L.W.L.		0-0¼	0-6¾	1-1½	2-2	2-9½	2-10½	2-2½	1-7½	0-9½	
DIAGONALS											
NO. 1			0-6½	0-10½	1-2¾	1-3	1-0½	0-8	0-5	0-2¾	
" 2			0-10	1-5½	2-3	2-7	2-6	2-0½	1-8½	1-4	
" 3			1-1	1-9¼	2-9¾	3-4	3-5	3-0½	2-8½	2-3½	

DIMENSIONS TO OUTSIDE PLANK - IN FT. & IN.

Table of offsets containing figures for laying out the lines and moulds for the little outboard cruiser Elcarujo

NYMPH, A 10-Foot Sailing Dinghy

A Smart Little Craft Which Every Boatman Can Build for Himself in Plenty of Time for Use Next Summer—Complete Drawings and Instructions Prepared for the Amateur Builder

Designed Especially for MoToR BoatinG

By William Atkin

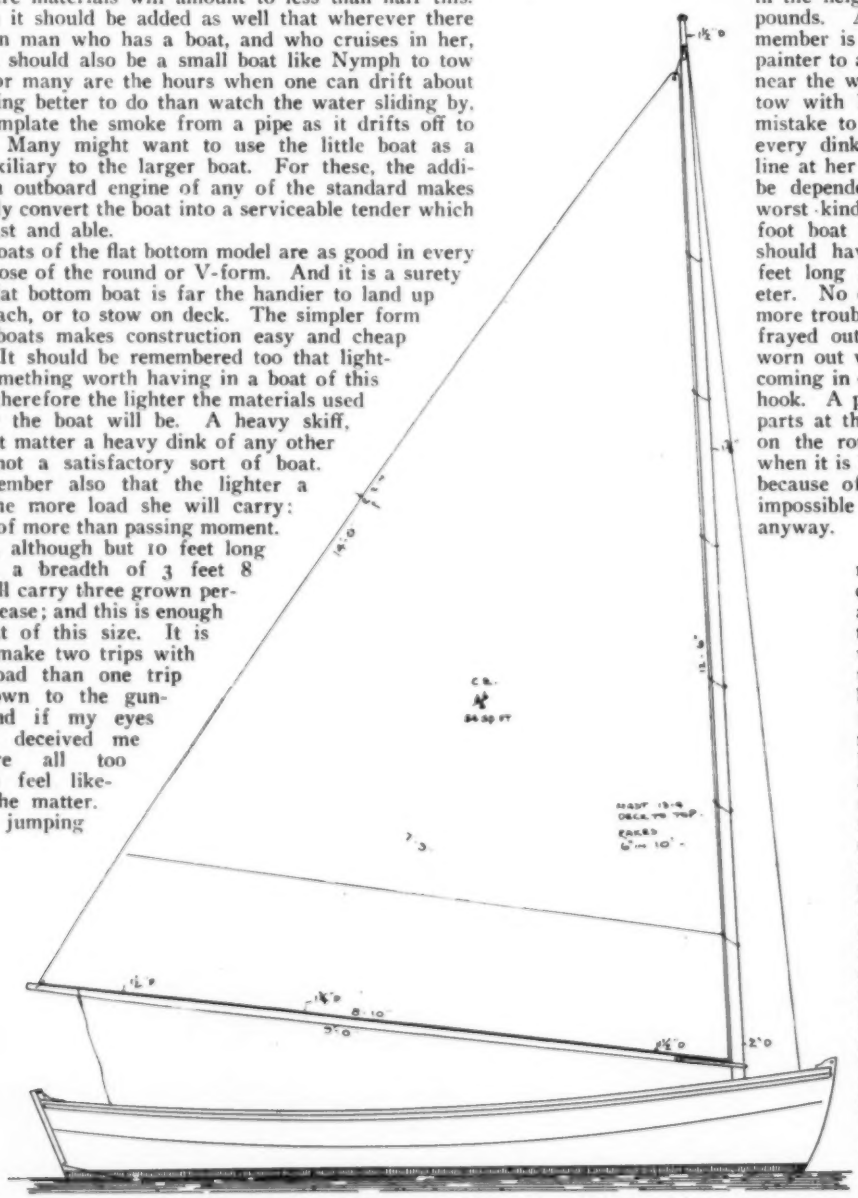
WHEREVER there is a small boy and some water there should be a boat like Nymph. Now Nymph is the kind of boat that can be built by the amateur builder without his having to spend weeks and months and years before his job is ready to launch; and furthermore if the boat is built by a professional builder its cost will not be prohibitive. Nymph can be built for a price between $100.00 and $115.00 including spars, sail, oars and hardware. Bare materials will amount to less than half this.

Perhaps it should be added as well that wherever there is a grown man who has a boat, and who cruises in her, that there should also be a small boat like Nymph to tow behind; for many are the hours when one can drift about with nothing better to do than watch the water sliding by, and contemplate the smoke from a pipe as it drifts off to leeward. Many might want to use the little boat as a power auxiliary to the larger boat. For these, the addition of an outboard engine of any of the standard makes will quickly convert the boat into a serviceable tender which will be fast and able.

Small boats of the flat bottom model are as good in every way as those of the round or V-form. And it is a surety that the flat bottom boat is far the handier to land up on the beach, or to stow on deck. The simpler form of these boats makes construction easy and cheap as well. It should be remembered too that lightness is something worth having in a boat of this kind and therefore the lighter the materials used the better the boat will be. A heavy skiff, or for that matter a heavy dink of any other kind, is not a satisfactory sort of boat. And remember also that the lighter a boat is the more load she will carry: a feature of more than passing moment.

Nymph, although but 10 feet long and with a breadth of 3 feet 8 inches, will carry three grown persons with ease; and this is enough for a boat of this size. It is better to make two trips with a light load than one trip loaded down to the gunwales; and if my eyes have not deceived me there are all too few who feel likewise in the matter.

Before jumping into the work of building Nymph it may not be amiss to mention some of the things that have been said before in connection with the towing of small dinks. The dinghy's bow should be kept up for then it will tow without shipping any water to speak of. Therefore it is not a bad idea to stow a bit of ballast in her stern, any article of weight which comes to hand can be used for this purpose, a sand bag, small anchor, pig of lead, or anything else that weighs in the neighborhood of 30 to 40 pounds. Another thing to remember is that by attaching the painter to a ring bolt on the stem near the water line the dink will tow with her nose up. It is a mistake to have a short painter, every dink should have a stout line at her bow and one that can be depended on to hold in the worst kind of weather. A ten-foot boat like our Nymph here should have a line at least 40 feet long and ½ inch in diameter. No other item can stir up more trouble than a short painter frayed out at the end and half worn out where it has chafed in coming in contact with the breast hook. A painter like this always parts at the wrong time; usually on the roughest kind of a day when it is impossible to put about because of the sea, and equally impossible to secure her again anyway.



Profile plan of the 10-foot sailing dinghy Nymph designed by William Atkin

In smooth water most small boats pull easiest if they ride just ahead of the crest of the second or third wave which follows in the wake of a motor boat. The speed of the whole outfit naturally must be considered in heeding this hint and as well the type of dink. If the dinghy rides behind the crest of a wave it practically rides up hill so pay out or haul in line until the little craft pulls the easiest. It is surprising how much difference a few inches make in the way the dink tows. As most of us know a towing dinghy is most troublesome in a following sea. Under these conditions it is well to give the craft plenty up line; 70 to 100 feet is not too much. On the Georges

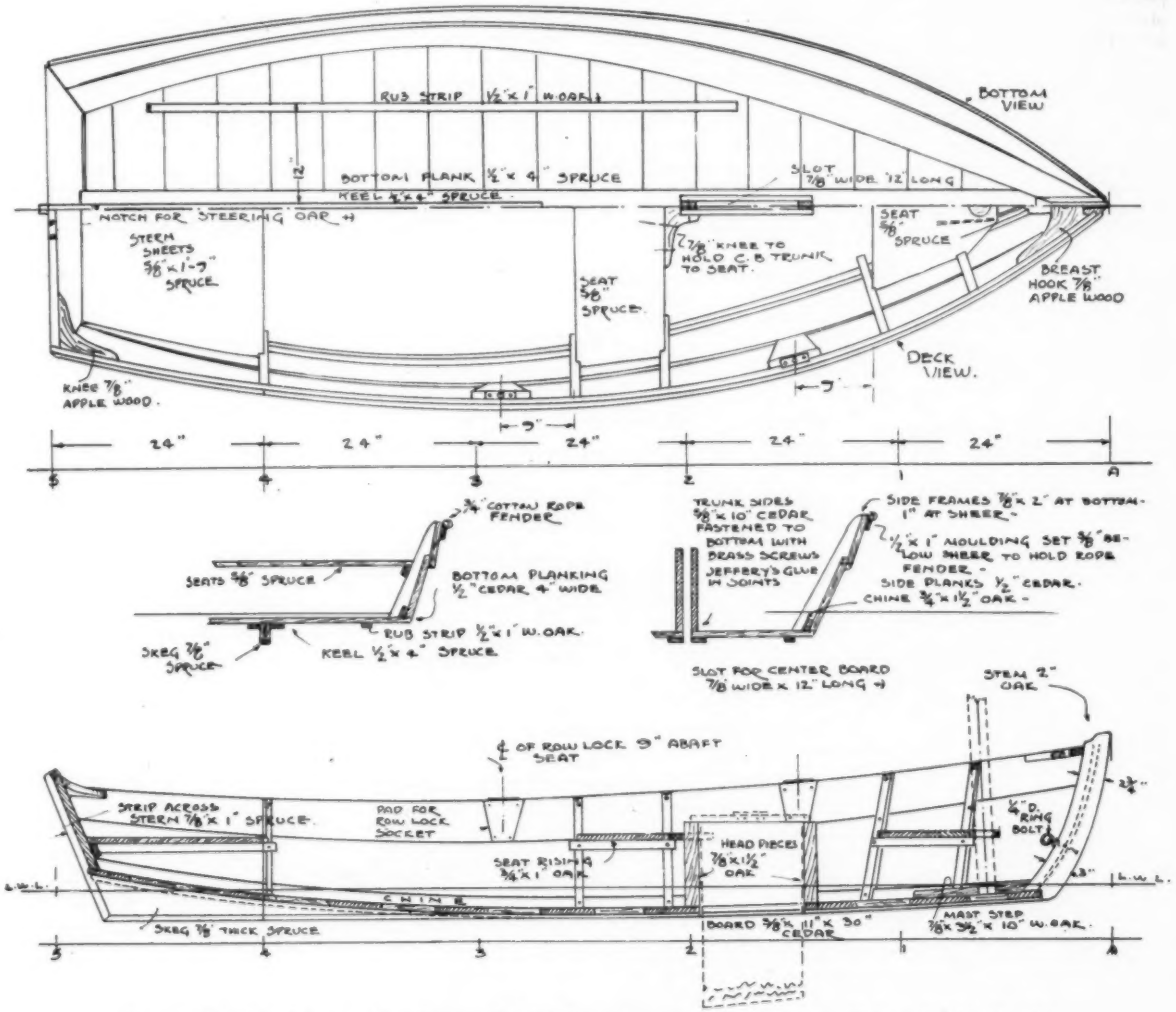
Bank, and other deep sea fishing grounds, the smacks commonly tow their boats at the end of painters up to 300 feet in length and the small craft ride the easier for this. The long line serves as a spring and thus gives an easy pull to the boat astern.

Four forms must be made over which to build Nymph. These will be spaced at 24 inch centers; then of course there is the stern board and the stem. The latter should be made of 2 inch oak; it can be cut from straight grained lumber and should be moulded 2¾ inches at the head and 3 inches at the heel. In getting this part out allow several inches to spare at either end for the purpose of forming the nub at the stem head and the bit of wood at the foot which is needed to fair in with the keel. Yellow pine might be used for the stem or spruce, hackmatack, or mahogany. The stern board will be made of ⅞ inch spruce or mahogany; notice that the dimensions for making this are given on the drawing showing the lines; and also note that these dimensions are to the outside of the planking; consequently the thickness of the planking, which is ½ inch thick, must be subtracted. It is rather unlikely that wood will be obtainable that is wide enough for making the stern board in one width and in this case it will be necessary to use two narrower pieces, joining them by means of a matched seam with a cleat inside, the latter forming a riser for the stern sheets.

The forms will be made of rough ⅞ inch spruce or some other suitable wood. In building this kind of boat the construction will be easier if she is set up bottom side up. In this case the side members of the forms should all be made an equal length from the water line to the floor and then when the forms are squared up the bottom will assume the right curve. The floor must be level and straight, otherwise it is apparent that the bottom will not be true. Inequalities in the floor can be compensated for by stretching a level line where the boat is to be built, and building up to this with small wedges slipped under the ends of the forms. Anyone who has built a boat knows the importance of taking care in making the forms and in setting them up. Many difficulties are in the path of the builder who slaps his forms up in any old manner, and many are the boats that have turned out disappointments for this very reason. The forms, the stern board and the stem should be securely fastened to the floor after having been perfectly squared up and plumbed. Bending the side planks exerts a lot of thrust and the first thing one knows a form moves, and the boat is lopsided, and no good forever after.

After the forms have been set cut out jogs for the chine pieces; these will be made of ¾ by 1½ inch white oak and should be clear of knots for otherwise they will not bend in a fair sweep. The forward ends of the chine pieces will be let into the stem and fastened with galvanized iron screws. At the stern the ends will be let in, but only to half the width of the stern board. The chines will be fastened to the forms for the time being, using screws set in from the bottom.

With the chines in place the lower planks should be fitted. These will be white cedar ¼ inch thick. It is not a difficult matter to fit these, but some skill will be


RUB STRIP ½"x1" W.OAK
BOTTOM VIEW
BOTTOM PLANK ½"x4" SPRUCE
KEEL 2¾"x4" SPRUCE
SLOT ⅞" WIDE 12" LONG
NOTCH FOR STEERING OAR
STERN SHEETS ⅞"x1'-7" SPRUCE
⅞" KNEE TO HOLD C.B TRUNK TO SEAT.
SEAT ⅞" SPRUCE
SEAT ⅞" SPRUCE
BREAST HOOK ⅞" APPLE WOOD
DECK VIEW.
KNEE ⅞" APPLE WOOD.
24" 24" 24" 24" 24"
5 4 3 2 1 A
¾" COTTON ROPE FENDER
SEATS ⅞" SPRUCE
BOTTOM PLANKING ½" CEDAR 4" WIDE
RUB STRIP ½"x1" W.OAK.
SKEG ⅞" SPRUCE
KEEL ½"x4" SPRUCE
TRUNK SIDES ⅝"x10" CEDAR FASTENED TO BOTTOM WITH BRASS SCREWS JEFFERY'S GLUE IN JOINTS
SIDE FRAMES ⅞"x2" AT BOTTOM 1" AT SHEER
½"x1" MOULDING SET ⅜" BELOW SHEER TO HOLD ROPE FENDER
SIDE PLANKS ½" CEDAR.
CHINE ¾"x1½" OAK
SLOT FOR CENTER BOARD ⅞" WIDE x 12" LONG
STEM 2" OAK
℄ OF ROW LOCK 9" ABAFT SEAT
STRIP ACROSS STERN ⅞"x1" SPRUCE
PAD FOR ROW LOCK SOCKET
SEAT RISING ¾"x1" OAK
HEAD PIECES ⅞"x1½" OAK
½" D. RING BOLT
CHINE
SKEG ⅞" THICK SPRUCE
BOARD ⅝" 11" x 30" CEDAR
MAST STEP ⅞"x3½"x10" W.OAK.
L.W.L.
5 4 3 2 1 A

Construction drawing showing all essential details necessary for building the 10-foot dinghy Nymph

needed to rabbet the top edge for a length of from 20 to 24 inches. This latter is necessary in order that the two strakes which are lapped 1 inch will finish flush at the bow and stern. The lap at the stern may be eliminated by cutting the sides of the stern board with a saw tooth-like notch, the tooth part of which is ½ inch broader on each side, filling what would be a hole ½ inch wide and as long as the top strake is wide. The top strake is next applied. This also should be of ½ inch white cedar and of approximately the width shown on the construction plan.

For fastenings, galvanized iron or brass screws should be used. At the stem and stern these should be spaced at 2 inch centers, but along the chine pieces the fastenings can be put in about 6 inches apart. The screws should be No. 8 size, 1⅛ inches long. It is far better in a boat of this kind to use small fastenings and space them closely, than to use heavy fastenings widely spaced. Along the lap of the two side planks copper boat nails riveted over burrs make the best fastenings; these should be between 5 and 6 inches apart.

If the boat is to be varnished the planks must be planed and sanded before they are fitted for otherwise the milling marks will show and these look badly with a bright finish. Of course the planing might be done after the boat is finished, but at that time it will be more difficult to do and it will not be so well done. This holds true of all the boat: seats, knees, trunk, etc. must be planed by hand if the best finish is desired.

Before the bottom planks are applied the bottom edges of the chines and the side planks must be faired off true and square and in a manner that will permit the bottom planks to fit a neat, tight joint. The best way to accomplish this is to use a long straight edge and plane the sides with this as a guide. It is not a bad idea to cut a slight hollow along here. As the bottom planks are fitted this can be filled with Jeffery's liquid marine glue thus forming a perfectly water-tight joint.

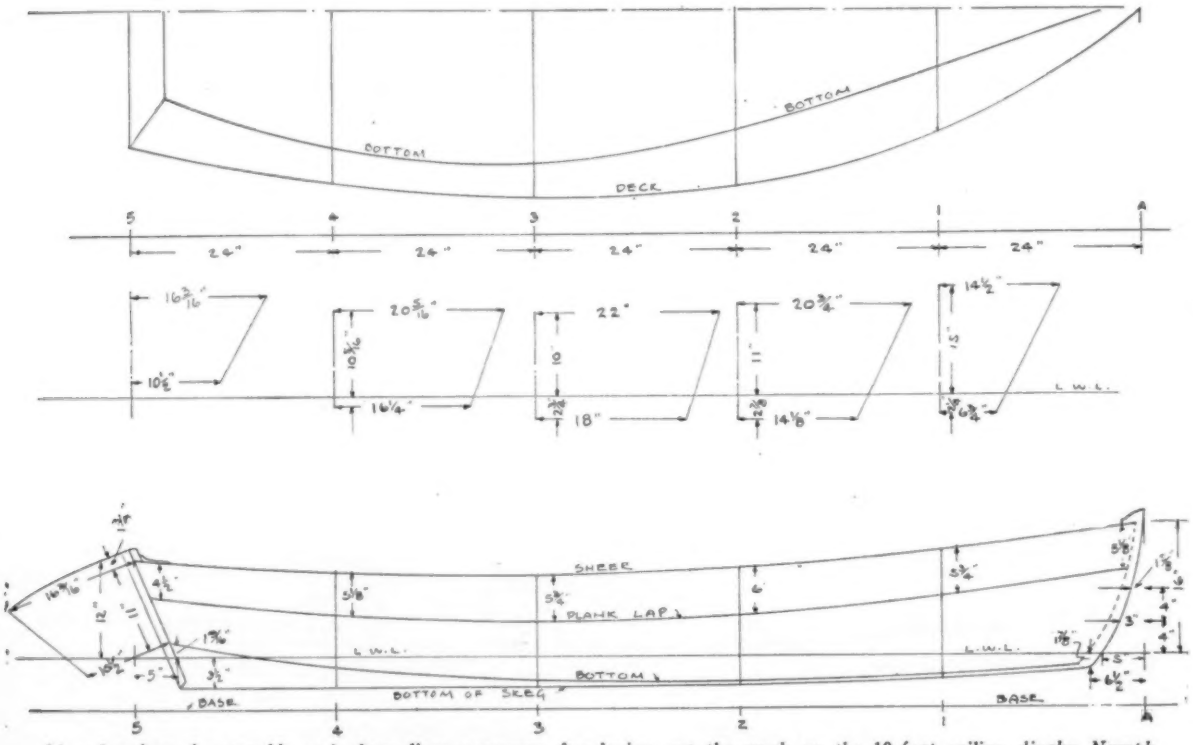
The bottom planks should not be over 4 inches wide and of ½ inch white cedar. This is the best wood known for the purpose and is not only light but strong as well and has remarkable lasting qualities. The bottom should be fastened with screws of the same size as those used on the sides. Drive four screws in the ends of each plank, two close to the edges and two evenly spaced between. The bottom will be water-tight then, and remain so. It is a great mistake to use nails here.

Before the forms are removed fit the keel and skeg. Quite naturally, because the keel covers the seams, these latter should be caulked and puttied. Several strands of cotton wicking will serve this purpose, and for putty use a half and half mixture of white lead and putty; there isn't anything better. The keel will be made of ½ by 4 inch spruce and should be fastened from the inside out, with screws set two to each bottom plank; the screws being not over ⅞ inches long, number 8 size. The skeg, it will be noticed, is made of ⅞ inch spruce and is set in a long notch formed by making two saw cuts in the keel; this protects the forward end, forming a continuous piece of wood running from the bow to the stern. The ⅞ by 1 inch spruce strip fitted on the stern will hold the skeg from bending to one side or the other.

Now Nymph will be turned right side up. Before removing the forms make and fit the side frames; these will be made of ⅞ inch spruce, at the bottom they will be moulded 2 inches and at the sheer 1 inch. There will be five of these each side. Screw fastening will be used excepting at the chine piece; here copper rivets will be best. Now the center mould can be taken out, but in its place fit the middle seat. The latter will be made of ⅝ inch spruce about 10 inches wide. The seat is fastened to a riser each side as shown. With the middle seat in and well fastened the rest of the forms can be removed without danger of the sides changing shape. The stern and bow seats will be made like that in the middle, and fastened in the same way.

Notice that the moulding is set some little distance below the sheer, the purpose of this is to allow stringing a rope or hose fender along the sheer in a manner that keeps the fender *above* the sheer where it will be most effective. This is the only practical way to have the fender, and it can be fastened in place with screws or nails having their heads sunk deeply in the hose. Fastening a fender on with twine and string after the usual practice is not at all satisfactory; the strings soon chafe through and the fender hangs in festoons alongside.

The knees in the quarters (*Continued on page* 126)



Line drawings for moulds and sheer lines necessary for laying out the work on the 10*-foot sailing dinghy Nymph*

SMALL MOTOR BOATS

Their Care, Construction and Equipment

A Monthly Prize Contest Conducted by Motor Boatmen

Questions Submitted for the February Prize Contest

1. What is the most suitable way to preserve the moorings during the winter, should they be raised or left in the water? And how can they be relocated.
(Submitted by T. B. K., Bronx, N. Y.)

2. Explain with sketches the construction and installation of a running light indicator to show that the lights are lighted.
(Submitted by W. B. M., Newburgh, N. Y.)

A Substantial Rudder Stock Sleeve

Many Acceptable Methods of Installing a Rudder Port So as to Permit Easy Steering and at the Same Time Keep the Water Out of the Hull

Answers to the Following Question Published in the October Issue:

"Describe and illustrate the best method of constructing a rudder stock sleeve for inboard operated rudders."

Stuffing Boxes Needed

(The Prize-Winning Answer)

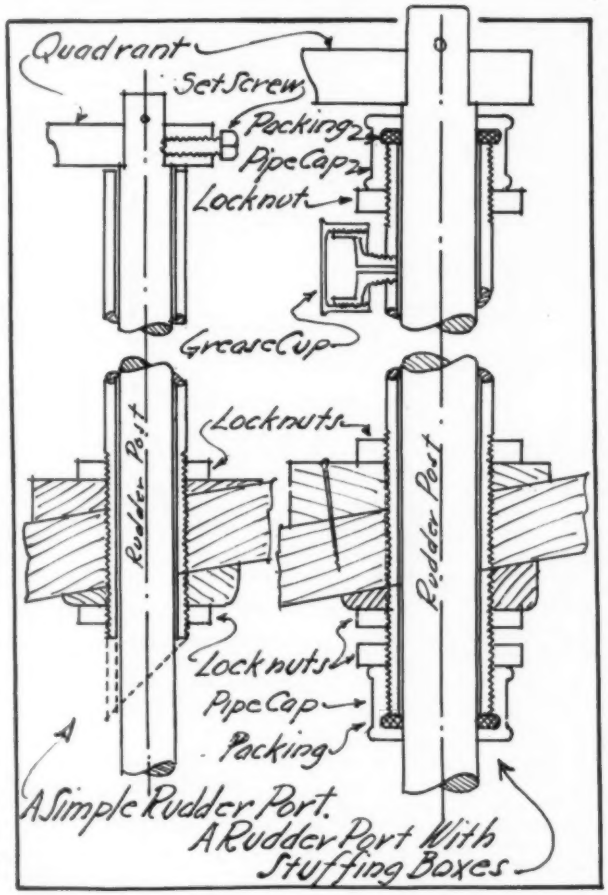
THE accompanying drawing indicates the construction of two rudder ports. The simpler one shows a pipe sleeve, with a long thread, screwed in place, with white lead, and further secured with a locknut both inside and outside. If the top of the sleeve is low it is a good plan to cut the bottom of the sleeve at an angle, as indicated by the dotted lines, to prevent the wash of the propeller from overflowing the top of the sleeve.

A better arrangement is shown with stuffing boxes. The stuffing boxes are made with brass pipe caps as shown and are secured from turning by locknuts. The stuffing boxes are packed with greased lamp wick or flat hem packing. A grease cup is indicated, while not necessary, it is a good plan to fill the space in the port with heavy grease.

Where the port projects a large distance into the boat it is necessary to give some lateral support to the top of the port to take the pull of the steering gear. It is important to have just sufficient play between the rudder port and rudder post, so as to prevent noise, and reduce wear to a minimum.

The accompanying table indicates the various dimensions of stock pipe and will assist in the selection of a suitable sleeve.

A. G. W.,
College Point, N. Y.



Rudder post fitted with stuffing boxes and built of standard pipe parts designed by A. G. W.

Rudder Port Construction

Galvanized iron or brass pipe furnishes the best material for a rudder port; whether or not a stuffing box is used depends upon the amount of freeboard, height of tiller (length of port) above waterline and the amount, if any, that the hull will squat at the stern when underway. In any event, it is best to screw the port directly into and through the keel or stern timbers, boring the hole with an expansion bit and setting it to make an opening just large enough to screw the port into place with a stillson wrench, but not so tightly that the pipe will stall part way through or else split the timber as it goes

Rules for the Prize Contest

ANSWERS to the above questions for the February issue, addressed to the editor of MoToR BoatinG, 119 West 40th St., New York, must be (a) in our hands on or before December 24. (b) about 500 words long (c) written on one side of the paper only (d) accompanied by the senders' names and addresses.

The names will be withheld and initials used.

QUESTIONS for the next contest must reach us on or before December 10. The editor reserves the right to make such changes and corrections in the accepted answers as he may deem necessary.

The prizes are: For each of the best answers to the questions above, any article or articles sold by an advertiser advertising in the current issue of MoToR BoatinG of which the advertised price does not exceed $25, or a credit of $25 on any article which sells for more than that amount. There are two prizes — one for each question — but a contestant need send in an answer to only one if he does not care to answer both.

For answers we print that do not win a prize we pay space rates.

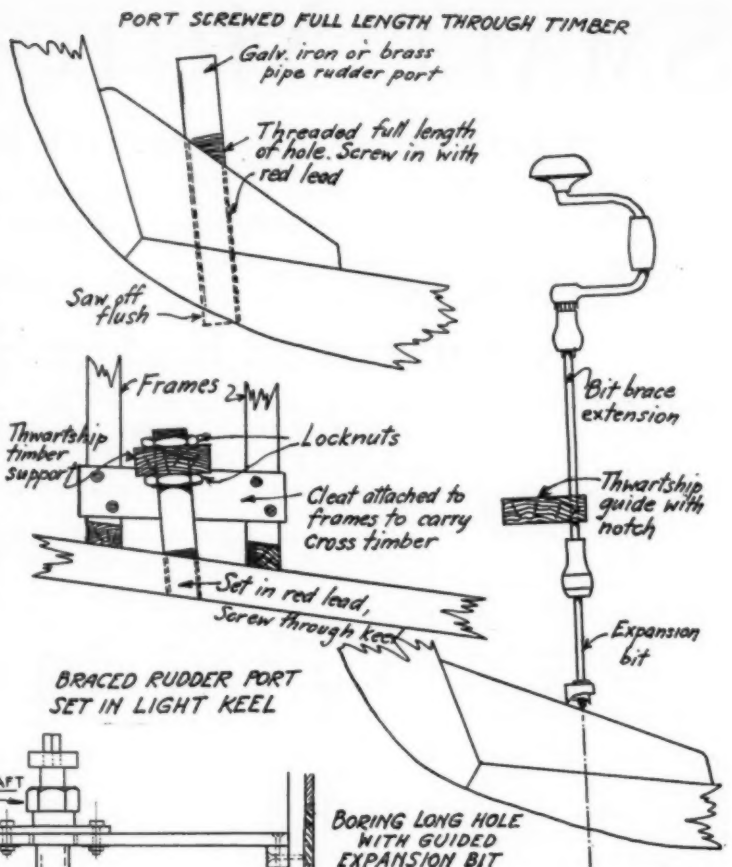
For each of the questions selected for use in the following month's contest, any article or articles sold by an advertiser advertising in this issue of MoToR BoatinG of which the advertised price does not exceed $5, or a credit of $5 on any article which sells for more than that amount.

All details connected with the ordering of the prizes selected by the winners must be handled by us. The winners should be particular to specify from which advertisers they desire to have their prizes ordered.

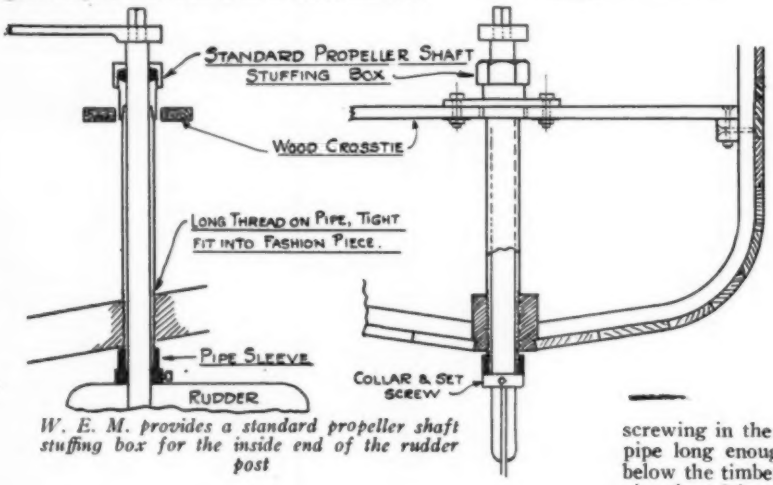
through. With deep stern timbers a long thread on the pipe will be required and while a running thread may be cut at the expense of considerable exertion with ordinary pipe threading diestock, if a lathe is available the thread, not necessarily a pipe thread but no coarser, may be machine cut. Always smear the threads as well as the bored hole, with red lead before turning in the pipe. Saw off the outer end of the pipe and file flush with bottom of keel timber.

Boring a long hole, especially with an expansion bit, is rather difficult. Obtain an augur bit extension, as heavy a type as possible but not too large to follow the bit through the hole; make sure the expansion bit is well aligned with the extension, then fit a guide timber across the hull and make a notch in it to take the shaft of the brace extension, making sure that the notch is exactly in line with the desired rudder port hole. This will help guide the bit through the center of the timber. Of course, if there is sufficient room, the guide may be rigged up externally and the hole put through from the bottom; then in case it was slightly out, this would not show from the outside and as the port is a loose fit for the rudder shaft, a slight mis-alignment would do no particular harm.

If the rudder port is long and the hole comparatively short, or if the keel is of no great depth, it is well to fit a brace athwart


PORT SCREWED FULL LENGTH THROUGH TIMBER
Galv. iron or brass pipe rudder port
Threaded full length of hole. Screw in with red lead
Saw off flush
Frames
Thwartship timber support
Locknuts
Cleat attached to frames to carry cross timber
Set in red lead, Screw through keel
BRACED RUDDER PORT SET IN LIGHT KEEL
Bit brace extension
Thwartship guide with notch
Expansion bit
BORING LONG HOLE WITH GUIDED EXPANSION BIT

H. A. P. shows several methods of securing the rudder post and gives advice on drilling the hole



W. E. M. provides a standard propeller shaft stuffing box for the inside end of the rudder post

ships to steady it; fasten a cleat across a pair of frames each side of the rudder port and bolt the brace to them. Should it be thought that there was any chance of the rudder port starting to unscrew, though this would not happen unless the timber it was screwed into was very shallow, put a locknut each side of the port brace after cutting a running thread on the upper end of the port.

H. H. P., Los Gatos, Calif.

A Rigid Pipe Design

THE rudder tube shown in the sketch is the usual pipe design except that provision is made to prevent water being thrown up into the boat by the propeller, and that the upper end of the pipe is held rigidly to prevent its working loose from the transom piece.

The lower end of the pipe is threaded with a long pipe thread as shown in the drawing. This thread should be cut rather full in diameter by using an adjustable pipe die and opening the cutters as wide as a perfect thread will permit. In fact, a little flatness on the extreme top of the threads will rather increase their holding power in the oak timber. This rather full thread allows cutting a standard taper thread on the very end of the pipe which will come in handy later on in fitting on the pipe sleeve shown on the bottom end. The hole in the transom piece should be a good tight fit on the pipe threads and should be slushed with red lead paste before screwing in the pipe. Make your threaded portion of the pipe long enough so that it will project about ¾ inches below the timber. At the upper end of the pipe a standard pipe thread is cut on which is screwed a threaded stuffing

(*Continued on page 70*)

Dimensions of Pipe in Inches.

		Wrought Iron or Steel Pipe			Brass Pipe	
		Standard Pipe	Extra Heavy Pipe	Double Extra Strong	Regular Pipe	Extra Heavy Pipe
Nominal Diameter	Outside Diameter	Internal Diameters				
½	.840	.622	.546	.252	.625	.542
¾	1.050	.824	.742	.434	.822	.736
1	1.315	1.049	.957	.599	1.062	.951
1¼	1.660	1.380	1.278	.896	1.368	1.272
1½	1.900	1.610	1.500	1.100	1.600	1.494

A. G. W. has prepared a table of standard pipe size dimensions which will prove valuable

Reducing Deposits in Cylinder Jackets

Overheated Cylinders Can Be Overcome by Arranging the Water Circulation System to Carry Off the Deposits Before They Have Time to Harden

Answers to the Following Question Published in the October Issue:

"Describe or illustrate how you have eliminated or lessened mud or scale deposits from forming in the lower portion of the water-jackets, and how it is possible to keep the overflow pipe lines from becoming fouled."

Correct Piping Keeps Jackets Clear

(The Prize-Winning Answer)

BEAR the following points in mind when piping a motor in order to get efficient circulation and minimize the possibility of clogging the jackets or pipe lines.

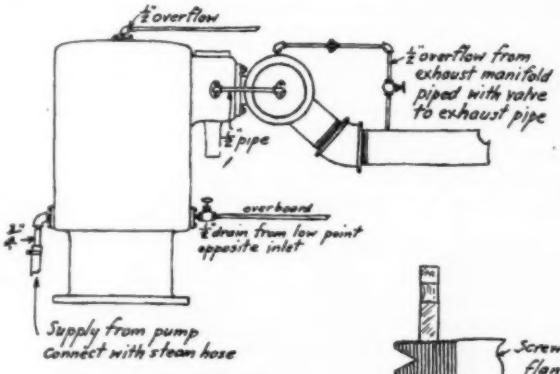
Hot water always rises; and, unless means of circulation are provided in the highest portion of the jackets, hot water will collect there, turn to steam, and local over-heating or even cracking of the casting will occur.

Sediment in the circulating water has a tendency to settle, particularly in spots where the circulation is poor; and, unless some provision is made for proper circulation in these spots, or even the frequent washing out by detouring the water flow through the jackets, these spots will become clogged with sediment and scale deposits, which are very poor conductors of heat.

Oily water pumped through the jackets from the bilge, will always leave an oily film on the inside of the jackets, which makes a first-class mud and scale catcher, as well as making the motor run hot.

Piping cold water directly into the upper part of the jackets, or around the hot exhaust valve pockets, will cause uneven expansion of the cylinder casting, and is liable to cause cracks to form; the better way being to by-pass a portion of the overflow water back through the pump, run it from the pump to the jackets of the exhaust manifold and then to the cylinder jackets, or pipe it as shown in the illustration.

When the motor suddenly runs hot for any reason, stop the motor, locate and fix the trouble, sit down and wait until the motor is well cooled off, and then start up again; otherwise, starting up while the motor is still overheated, throwing the cold water in against the hot castings, is almost certain to cause cracking of some portion of the casting.

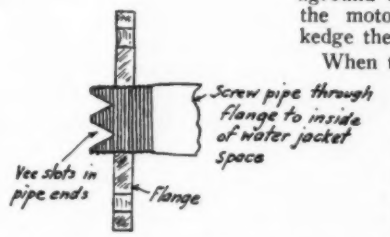


The piping system arranged by V. L. S. will do much to prevent settlement of mud in the bottom of the cylinder jackets

Different makes of motors invariably use slightly different methods of piping and circulating the cooling water. However, the rule is to pipe the cold water in at the bottom and allow it to overflow from the top of the jacket. In some cases, the cold water is first pumped into the exhaust manifold, slightly heated, circulated then to the exhaust pocket jacket, and then overflowed from the top of the cylinder head. This type of motor, however, runs much warmer than the average, and, particularly in salt or muddy water, have considerable trouble with scale or mud deposits, unless the motor is almost in continuous operation.

The illustration will show an approximate piping system which has shown absolutely no indication of clogging or overheating. All piping is connected by flanges to the cylinder castings, and the pipes, where they screw into the flanges, are run through about one half an inch and V slots cut out as shown, so that scale or other deposits will not be able to clog the opening. The lower drain pipe is piped overboard from the lowest portion of the jacket, opposite the water intake, and is opened when the motor is being run idle, so that any mud or scale deposits are loosened and washed out. As soon as the clutch is engaged the valve is shut, so the water can circulate in the ordinary manner. Between the pump and water inlet, the piping is connected with a short piece of steam hose, so that in case any of the piping should become clogged, the water pressure will burst the hose instead of some portion of the jacket casting. The small pipe running from the valve pocket jacket to the exhaust manifold causes a good circulation of water around this part of the jackets which frequently clog up and run hot, and also provides two overflow openings. The sizes of piping are those used on a motor using a three-quarter inch pump, and will give a good circulation through all portions of the jackets. In fact, after using this system on a motor pumping the cooling water out of the muddy Delaware River and Bay, as well as the salt water from the Chesapeake Bay, the motor has given no trouble whatever from clogging up either the jackets or piping, while several others operating under the same conditions, but using different piping systems, have clogged up frequently and in some cases caused cracked castings.

In some instances, when operating boats in very shallow water, two intakes through the hull have been provided. These are connected with a two way valve, so that the operator can easily shift from one to the other, and in the shoal water, where there is almost a certainty of drawing mud or sand up through the pump by using the lower intake, the operator shifts to the upper intake, which is just below the waterline of the boat. In any case, a good strainer should be used on the water intake, and in case of running aground or in shoal water, stop the motor and either pole or kedge the boat off by hand.



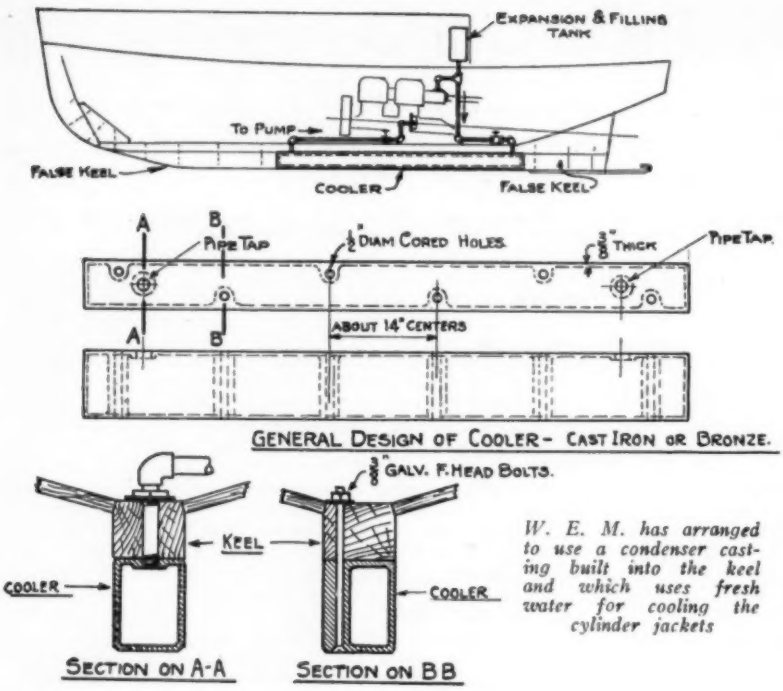
When the motor is overhauled during the winter, clean the jackets out thoroughly; and, if possible, take the jacketed castings to some place where they can be blown out with steam, as this is the best method of cleaning. Then change the piping system to one similar to the illustrated method, and your jacket clogging troubles will be a thing of the past.

V. L. S., WILMINGTON, DEL.

Condenser Cooling Device

IF you are operating your boat in waters which are heavily laden with mud or where frequent groundings in mud banks are unavoidable, it may be well to equip your motor with a self-contained cooling system which by using the same water continuously, is independent of the water in which you may be cruising.

Such an installation is shown in the drawing, and is designed to operate on the principle of the condensers, which were used in the navy steam cutters. These condensers were kept cool by the passage of the boat through the water and were attached or rather built-in the keel of the boat.



W. E. M. has arranged to use a condenser casting built into the keel and which uses fresh water for cooling the cylinder jackets

The cooler is an iron or bronze casting the same width as the keel, and about 4 to 6 inches in depth, depending on the size of the motor to be cooled. It is as long as practical for the length of the keel and should be protected at both the forward and after ends by attaching a false keel of the same depth as the cooler, thus maintaining a straight keel line, as shown in sketch.

The drawing shows the method of attaching the casting to the keel by means of through bolts with canvas gaskets well soaked in red lead. The inlet and outlet pipes run through the keel and tap into the casting at the after and forward ends respectively so that the travel of the water through the cooler is in the forward direction. The outlet pipe (at the forward end) is run to the pump on the motor. The overflow from the water jackets returns to the rear of the cooler and thus completes the circuit.

It is necessary to take care of expansion and also for the purpose of keeping the circulation system full, to provide an expansion tank of several gallons capacity. This tank is connected to the return side of the system at the highest point of the piping, which by the way should be several inches higher than the highest point in the water jackets on the motor. The general design of the cooler is shown in the drawing, and it will have to be made to suit individual conditions of the particular boat. The casting is not a difficult one and should strengthen rather than weaken the keel, if well fastened on.

In the winter, alcohol may be added to the system to prevent freezing, same as is done in the cooling systems of automobiles. A valve should be located on both sides of the cooler so that in case of accident the water may be shut off or partly shut down to operate at the most efficient temperature.

W. E. M., PHILADELPHIA, PA.

Brass Pipe Reduces Deposits

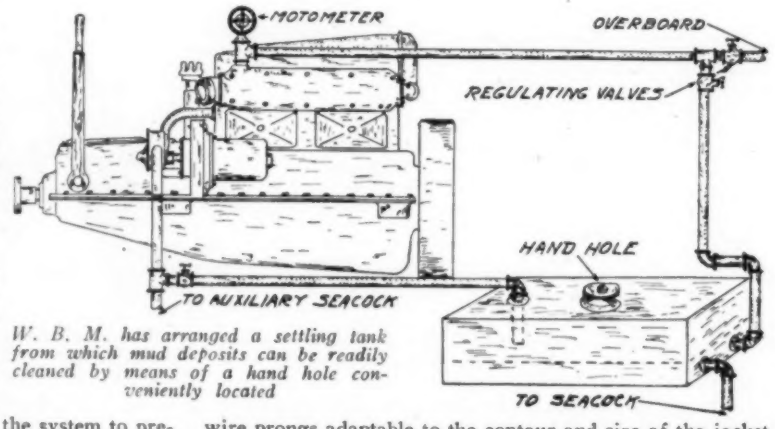
FROM the nature of the service, the accumulation of mud or scale deposits in the cylinder water jackets of a marine motor is a condition that is inevitable. However, good design and a few precautions can minimize the amount of such deposits, which, though not always injurious, detract from the potential power, cleanliness, and silence of the motor.

Inlet and overflow pipes should be of a good grade of brass and as short and direct as possible. Strainers, scoops, and guards should be brass or copper of ample size and securely fastened to hull metal or planking. During repainting, bottoms should be carefully cleaned, rubbed clear down, and repainted with a paint of known rust- and scale-resisting qualities for the waters to be encountered, extra care being taken around pipe openings.

The motor should not be run needlessly, as is common practice, around docks, moorings, wells, etc. In cruising, the pilot should try to avoid dirty, shallow water, strong direct currents, eddies, wakes of other craft, sharp maneuvers, and frequent starting and stopping, as these factors all tend to bring in dirty water to the motor.

A good mechanic occasionally feels a motor shortly after starting and stopping, even though there may be a motometer somewhere on the line or cylinder block. In this way one can sometimes detect certain cylinders which heat more than others, or a considerable variation in opposite sides of the same jacket, or on large motors, with cylinders cast in pairs or triplets, overheating may be confined to one or two units. Again, overheating sometimes ends at a certain connection, elbow, pipe, or valve; or a worn or poorly fit hose connection may be obstructing the flow. Checking up on such factors and symptoms may save needless anxiety and work in locating the major deposits of mud or scale.

These deposits are quite accessible on some motors having removable covers or expansion plates on the outside of the water jackets. On others it may be necessary to reach up through small drain plug holes in the bottom or down around valve or combustion chambers, using steel or copper wire prongs adaptable to the contour and size of the jacket. If the deposits are of a hard, metallic nature, as is often the case in salt water service, it is best to pour or inject a solution of 1 part sulphuric acid diluted with 8 parts of water and allow to stand 3 or 4 hours. This facilitates further scraping or fishing out of the scale. Occasionally an odd-shaped spoon or knife aids in this job. When the deposits are largely mud or sand, they may be flushed out with hot water, under pressure, or at least run in from a good head.



W. B. M. has arranged a settling tank from which mud deposits can be readily cleaned by means of a hand hole conveniently located

When it is possible to remove nearly all sludge, scale, and foreign matter from jacket interiors, it is advisable to coat the same with a good steam boiler (*Continued on page 70*)

The *Starboard* Watch

Some Timely Suggestions by an Old Timer on Improving the Sport and Industry of Motor Boating

By WILBUR H. YOUNG

THE motorboat industry is face to face with a wonderful opportunity to put motorboating on the map as a major public sport in Eastern waters. It is also faced with the possibility of fumbling this opportunity. The chances are about fifty-fifty. I refer to the forthcoming Gold Cup Races. I, for one, am against the holding of these races either on the Hudson River or on Manhasset Bay. Long and disastrous experience has proved that the Hudson is no place for motorboat races, on account of driftwood, the wash from steamers, tugs and barges and a number of other reasons, the important one being the fact that the Hudson River is strictly a sewer at this point. Manhasset Bay is equally bad, not on account of driftwood and sewage, but because it is totally inaccessible to the public and a series of races there would as in the past draw but a corporal's guard of spectators.

I recommend the holding of the races on Eastchester Bay (otherwise known as Pelham Bay) course, partly for the reasons I have already advanced in these pages and for other and more important reasons as well, those including the transportation facilities and the fact that a greater part of the entire shore line is public park. I recommend that the motorboat industry cooperate with the Columbia Yacht Club, and make it a great New York Marine Festival, and that all the Yacht Clubs in this vicinity take an active interest in furthering this idea. It can be done easily, without the expenditure of any extra money. The following steps, among others, should be taken:

1—Secure immediately the active cooperation of Mayor Hylan, Police Commissioner Enrightt and other prominent public officials in making this regatta a real New York boosting event. This might mean the attendance of these men in their official capacities as active officials of the regatta, the police band and other official elements of public interest.

2—Secure the co-operation of the radio people and have well known authorities broadcast talks about the regatta and about motorboating in general, both in advance of the events and during their progress.

3—Appoint, not only on the Publicity Committee, but also as active officials of the races, the various sporting editors of the New York papers. The value of this suggestion is self-evident.

4—Secure the co-operation of such organizations as the Friars Club and the Actors Equity. Their services would be invaluable in making the various Gold Cup events, banquets, and so forth, entertaining and interesting and, if the members of these organizations were given rides in fast speed boats, they would carry the news of the thrill all over the United States and might be induced to make public reference to the festival from the New York stages.

5—Arrange with the transportation concerns to provide special schedules to carry the public out to the great public playground at Pelham Bay Park. This might result in all of the buses carrying placards announcing the event.

These are only a few of the thoughts which arise in connection with the forthcoming Gold Cup events. The radio broadcasting of results and interim band concerts to the crowds is stealing some of Detroit's stuff, but extremely valuable.

Let's get together and make this the greatest public reception of the motorboat as a sporting utility that ever happened. If New York muffs this opportunity to boost the motorboating game, I am hoping that the Detroit crowd will take the Gold Cup back to the Motor City where they know how to run races to the enjoyment of the public.

* * *

Why not, also, a New York Sweepstakes? This might be of a hundred or a hundred and fifty miles and would call forth some splendid entries.

I am afraid it would have to be restricted as to hull size and cylinder capacity, in order to get a suitable number of contestants, but it's a shame that we can't contrive some worthy competition for the fastest boat in the world—Miss America II.

* * *

I am glad to see that the A. P. B. A. is recommending the resumption of racing for the One Mile Championship in a series of spring races following the holding of the Gold Cup. The public is interested in springs and this splendid event deserves resurrection.

* * *

Why not a deliberate attempt on the part of the motorboat industry to interest growing boys in this sport? They are the motorboat enthusiasts of the future and the more that came in now the greater will be the sport (and the industry) in a few years.

* * *

I am glad that Horace Dodge did not endeavor to attach the title Gold Cup to the Dodge Memorial Trophy he has so generously donated and I hope it will produce some marvelous sport.

* * *

One of the saddest events that ever could overtake motorboating would be the passing of William Washburn Nutting—if he has passed. I do not believe that he has. I have a hunch that Bill is floating around somewhere in the northern ice, either in his staunch little boat or afoot. Bill is a self-reliant chap and generally knows exactly what he is doing. I cannot think of anyone more likely to pull himself out of any kind of a scrape. And I cannot think of anything that could have happened to him and his fine little craft unless it might have become crushed in the ice, which is reported as the worst in many years around Greenland. Here's hoping that Bill is safe and sound somewhere and will come back with some thrilling tales of his adventures

(*Continued on page* 124)

Noted New York Designer Joins DODGE

George F. Crouch of New York, one of the foremost motor boat designers in the world, has joined the Horace E. Dodge Boat Works organization and will be permanently connected with this live and coming Detroit Boat Building plant in entire charge of designing, construction and production.

Mr. Crouch will be remembered by the many readers of MoToR BoatinG from his many designs which have appeared in these columns. They will also recall that Mr. Crouch designed the first three boats to finish in this year's Gold Cup Race as well as many other fast and famous craft in the past.

Mr. Dodge is to be congratulated on being able to acquire Mr. Crouch's exclusive services. It is a decided step in advance, not only for Mr. Dodge but for the whole industry of boat building.

Yard *and* Shop

Notes of Interest to Both Owner and Manufacturer

A New Kermath Coming

A PRELIMINARY announcement has been made of a new six cylinder Kermath engine which will be ready for the next year's boatmen, and which will be fully described in the January number of MoToR BoatING. So far it is learned that this engine will be of two types, high and low speed, which will develop from 75 to 100 h.p at speeds up to 1,850 revolutions in the case of the high speed model, and from 40 to 60 h.p. at 1,000 revolutions in the case of the low speed type. Both machines will be completely equipped with double ignition, Bosch magneto, Bosch battery system, Bosch electric starter and generator, and extra heavy storage battery. It will be of the same cylinder sizes as the present Kermath models 35 and 50, and many of the parts will be interchangeable with these. It will be provided with force feed lubrication throughout. These new machines have been under test for several months, and are wonderfully fine operating machines.

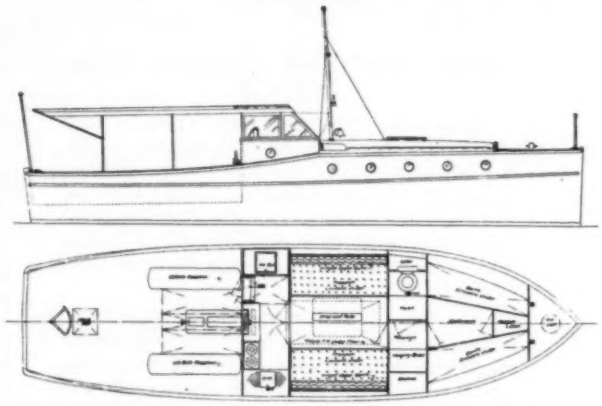
Elco Boats in Florida

L. O. Blatchford, who recently arrived in Miami, on board a 34-foot Elco cruisette from New York, has opened an agency there for the Elco boats. These boats manufactured at the Elco plant in Bayonne, N. J., are well known, and Mr. Blatchford's offices at 28 North Bay Shore Drive, will be busy explaining their merits to the many visitors at Miami.

A Correction

November MoToR BoatING published a very interesting photograph of a Sea Sled on its contents page, but due to an error in the information given, it was stated that the speed of this boat was 28 miles per hour. This should have been 38 miles per hour, as a boat of this type fitted with a big Hall-Scott engine can easily maintain the higher rate of speed.

The new show room of the Cape Cod Shipbuilding Corporation at Wareham, Mass., where they will display a complete sample line of all their boats



Plan and profile of the new Standardized 36-foot cruiser which is to be built by the Greenport Basin & Construction Company and shown at the Motor Boat Show next month

Kermath 32-36 HP Motor
1911 Model
Micrometric Measurements Taken 1924
to determine Wear and Distortion

Cyl. No.	Bottom of Cylinder — Out of Round	Bottom of Cylinder — Across ℄	Bottom of Ring Travel — On ℄	Bottom of Ring Travel — Across ℄	Centre of Ring Travel — On ℄	Centre of Ring Travel — Across ℄	Top of Cylinder — On ℄	Top of Cylinder — Across ℄	Wear Taper	Amount of Bowl Lifting Travel	Remarks
1	+.0005	+.000	+.003	+.0025	+.0025	+.004	+.0045	+.007	.0045	.005	Motor No. 515
2	+.000	-.001	+.0025	+.001	+.002	+.0025	+.006	+.008	.006	.0013	
3	+.000	-.001	+.003	+.001	+.002	+.0025	+.003	+.005	.005	.002	
4	+.001	-.0005	+.004	+.003	+.004	+.0035	+.005	+.003	.005	.001	
Average	+.0005	-.0005	+.003	+.0025	+.0025	+.003	+.004	+.005	Taper .001	Bowl .0015	
Pistons					Undersize at Ring Slot						
1	-.007	-.008	-.005	-.007			-.0075	-.008			
2	-.006	-.005	-.004	-.007			-.007	-.008			
3	-.0055	-.005	-.005	-.008			-.007	-.009			
4	-.006	-.003	-.0045	-.0075			-.007	-.009			

Connie, the 22-foot runabout powered with a 16-h.p. Kermath which has made over 25,000 miles without a breakdown. The table shows the result of an accurate measurement of all parts for wear after this long period of service

New Scripps Dealer in New York

New connections have been made by the Scripps Motor Company of Detroit for the handling of their line of engines in the territory in and around New York. The Holt Marine Engineering Corporation of 611 West 125 Street, New York, N. Y., have taken over the representation, and in the short time which has elapsed since this connection, have done a splendid business. The new representatives make a strong feature of service, and are on the job, looking after the interests of Scripps engine owners, and seeing that everything is working well. They have in stock a very full line of engines for quick delivery, and in addition are carrying a very complete stock of service items located at important strategic service points from which they are quickly available in cases of emergency. Yachtsmen who are interested in seeing a fine display of Scripps engines will find it worth while to stop in at the Holt offices in New York.

A New 36-Footer

The Greenport Basin & Construction Company have planned a very excellent 36 by 10 foot standardized cruiser which they are building in time to show (*Con. on page* 134)

A new World's Champion "Valsparred of course"

Photo by M. Rosenfeld, N. Y.

Mississippi Valley Power Boat Association

Officers

W. H. PARHAM ..... President
New Orleans, La.
(Southern Yacht Club)

R. H. DANIELS ..... Vice-President
Peoria, Ill.
(Peoria Yacht Club)

A. T. GRIFFITH ..... Secretary
337-8 Hippodrome Bldg., Peoria, Ill.
(Illinois Valley Y. and C. Club)

R. A. MAPLES ..... Treasurer
Clinton, Iowa
(Clinton Boat Club)

AN ORGANIZATION OF BOATING CLUBS DEVOTED TO THE ADVANCEMENT OF POWER BOATING

Directors

L. E. Selby ..... Pekin, Ill.
(Pekin Boat Club)

Arthur W. Dunbow ..... Oshkosh, Wis.
(Oshkosh Power Boat Club)

Fred W. Sohrom ..... Milwaukee, Wis.
(South Shore Yacht Club)

Gould T. White ..... New York City
(Broad Channel Yacht Club)

Alfred H. Wray ..... West Palm Beach, Fla.
(Palm Beach Yacht Club)

Pekin, Illinois
September 3rd, 1924

Valentine & Company,
Chicago, Ill.

Gentlemen:-

Replying to your favor of the 18th ultimo, beg to advise that our "Margaret III" which won the 151 cubic inch class at Oshkosh, Wis. in July is the World's champion in this class, having won the title at Palm Beach Florida in February of this year, and duplicates of this boat have been built all over the world, as I know of them in Spain, Italy, France, England and Australia. This boat holds an official record in competition of 36.23 M.H.P. which speed has not so far been equalled.

We have used Valspar on all of our racing boats since we brought out the first "Margaret" in 1915 so it is needless to say that we found early in the game that Valspar was the one varnish to use around water, and we never use anything else.

Yours very truly,

Selby, Gmeinmetz

nine years a Valspar user!

Associated Clubs

Alton Motor Boat Club ..... Alton, Ill.	Houston Launch Club ..... Houston, Tex.	Pekin Boat Club ..... Pekin, Ill.
Bay Waveland Yacht Club ..... Bay St. Louis, Miss.	Houston Yacht Club ..... Houston, Tex.	Pensacola Yacht Club ..... Pensacola, Fla.
Biloxi Yacht Club ..... Biloxi, Miss.	Illinois Valley Yacht and Canoe Club ..... Peoria, Ill.	Peoria Yacht Club ..... Peoria, Ill.
Broad Channel Yacht Club ..... Broad Channel, L. I.	Inland City Boating Association ..... Rock Island, Ill.	Ponce DeLeon Association ..... St. Augustine, Fla.
Burlington Launch Club ..... Burlington, Iowa	Joliet Yacht Club ..... Joliet, Ill.	Quincy Power Boat Club ..... Quincy, Ill.
Carondelet Motor Boat Club ..... St. Louis, Mo.	Kansas City Yacht Club ..... Kansas City, Mo.	Racine Power Boat Club ..... Racine, Wis.
Cedar Rapids Boat Club ..... Cedar Rapids, Iowa	Keokuk Motor Boat Club ..... Keokuk, Iowa	Red Wing Yacht Club ..... Red Wing, Minn.
Centville Motor Boat Club ..... Centville, Wis.	La Crosse Motor Boat Club ..... La Crosse, Wis.	Savanna Boat Club ..... Savanna, Ill.
Clinton Boat Club ..... Clinton, Iowa	Lake Arthur Boat Club ..... Lake Arthur, La.	Southern Yacht Club ..... New Orleans, La.
Chicago Motor Boat Club ..... Chicago, Ill.	Ludington Yacht Club ..... Ludington, Mich.	South Shore Power Boat Club ..... Chicago, Ill.
Chicago Yacht Club ..... Chicago, Ill.	Minnetonka Motor Boat Club ..... Minneapolis, Minn.	South Shore Yacht Club ..... Milwaukee, Wis.
Corpus Christi Yacht Club ..... Corpus Christi, Tex.	Moline Launch Club ..... Moline, Ill.	St. Petersburg Yacht Club ..... St. Petersburg, Fla.
Davenport Boat Club ..... Davenport, Iowa	Milwaukee Yacht Club ..... Milwaukee, Wis.	St. Petersburg Power Boat Assn. ..... St. Petersburg, Fla.
Dubuque Motor Boat Club ..... Dubuque, Iowa	Muscatine Power Boat Club ..... Muscatine, Iowa	St. Tammany Yacht Club ..... Mandeville, La.
Eastern Shore Yacht Club ..... Mobile, Ala.	Ohio Valley Aquatic Recreation Assn. Evansville, Ind	St. Paul Motor Boat Club ..... St. Paul, Minn.
Fox River and Lake Association ..... McHenry, Ill.	Ohio Valley Motor Boat Racing Assn. ..... Dayton, Ky.	Waterloo Motor Boat Club ..... Waterloo, Iowa
Guttenberg Motor Boat Club ..... Guttenberg, Iowa	Oshkosh Power Boat Club ..... Oshkosh, Wis.	Winona Motor Boat Club ..... Winona, Minn.
	Palm Beach Yacht Club ..... West Palm Beach, Fla.	

This coupon is worth 20c to $1.60

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VALENTINE & COMPANY M.B. 12-24
460 Fourth Ave., New York

I enclose dealer's name and stamps—20c for each 40c sample can checked at right. (Only one sample of each product supplied at this special price. Write plainly.)
Valspar Instruction Book with Color Charts, 15c extra.

Dealer's Name .....
Address .....
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- Clear Valspar . . ☐
- Valspar Bronze Bottom Paint ☐
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- Gold Paint . . . ☐
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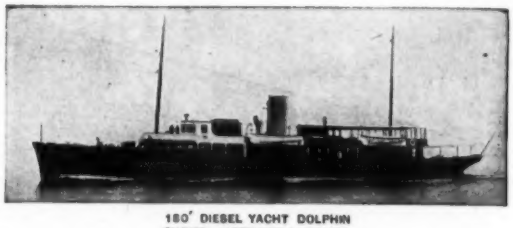
- Valspar-Enamel ☐ Choose 1 Color .....
- Valspar-Stain ☐ Choose 1 Color .....
- *Valspar Book* ☐

240' DIESEL YACHT VANADIS
OWNER — C. K. G. BILLINGS



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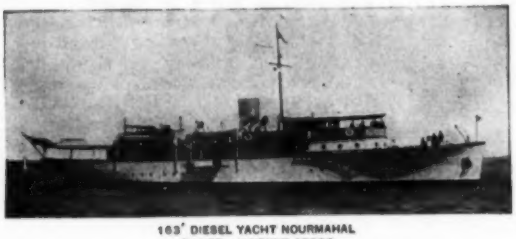

163' DIESEL YACHT NOURMAHAL
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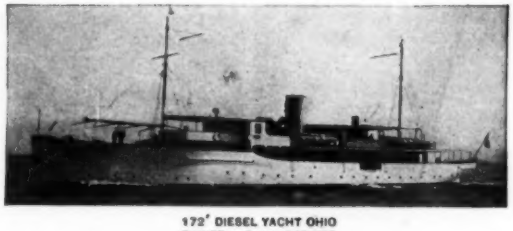


172' DIESEL YACHT OHIO
OWNER — E. W. SCRIPPS

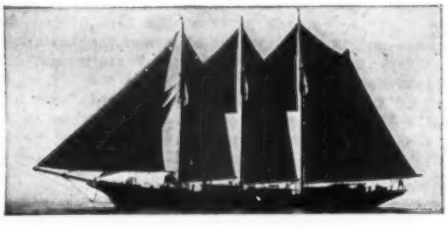
THE ILLUSTRATIONS ON THIS PAGE ARE ALL OF

DIESEL YACHTS

DESIGNED AND BUILT UNDER THE SUPERVISION OF

COX & STEVENS

25 BROADWAY
NEW YORK CITY



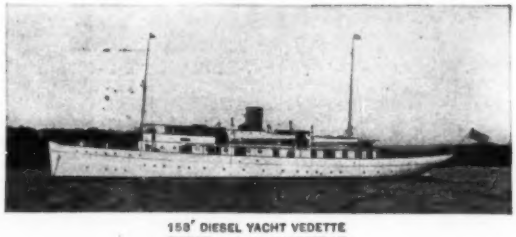
TELEPHONE
WHITEHALL 2700

204' AUXILIARY DIESEL YACHT HUSSAR
OWNER—E. F. HUTTON

MANY NEW PROBLEMS ARISE WHEN DIESEL ENGINES ARE USED
TO SOLVE THEM SUCCESSFULLY REQUIRES

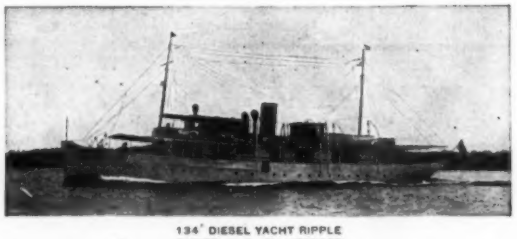
EXPERIENCE

15 DIESEL YACHT OCEANUS
OWNER—J. W. KISER



158' DIESEL YACHT VEDETTE
OWNER — F. W. VANDERBILT

129' DIESEL YACHT CYNTHIA
OWNER — MERRILL B. MILLS



134' DIESEL YACHT RIPPLE
OWNER — C. M. LEONARD

Full Information on Request

Advertising Index will be found on page 138.

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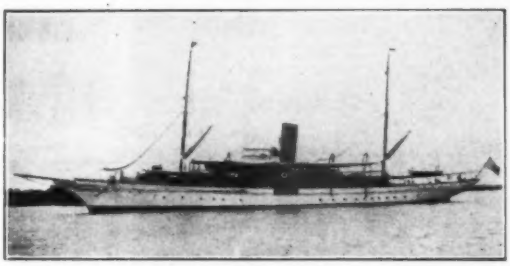
BROKERAGE NEW YORK

COX & STEVENS

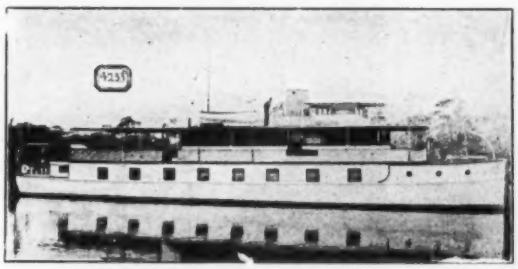
Telephone:
WHITEHALL, 2700

NAVAL ARCHITECTS---MARINE INSURANCE---YACHT BROKERS
25 BROADWAY, CUNARD BUILDING (Morris Street Entrance), NEW YORK

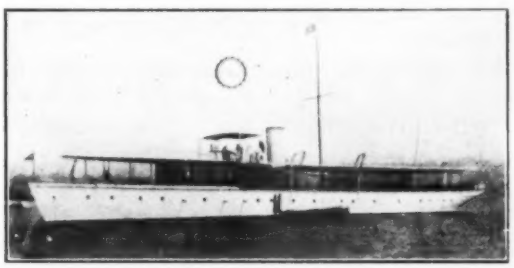
On this page are shown a few representative yachts selected from our large lists. Should none appeal kindly acquaint us with your requirements. Full information regarding costs to build, purchase or charter yachts of all types gladly furnished.



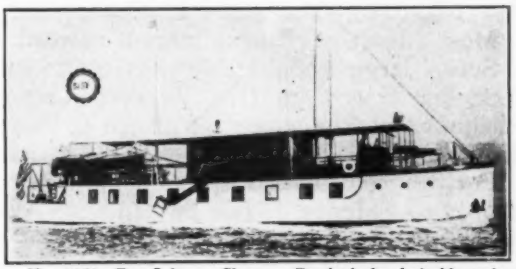
No. 341—For Sale or Charter—Large, sea-going steam yacht. Palatial accommodation. Unusual opportunity. Several similar larger and smaller available craft. Cox & Stevens, 25 Broadway, New York.



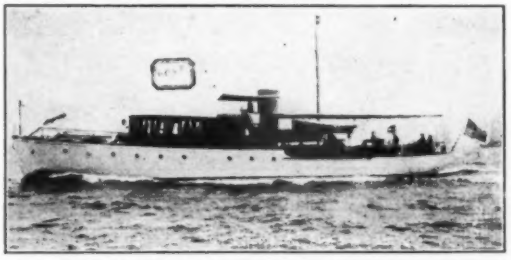
No. 4233—For Sale or Charter—Practically new, twin screw motor houseboat, 100 ft. x 20 ft. x. 3 ft. draft Speed 10-11 miles. Exceptional accommodation includes five staterooms, three bath and toilet rooms. Dining room and library in deckhouse. Tastefully furnished throughout. Large deck space. Cox & Stevens, 25 Broadway, New York.



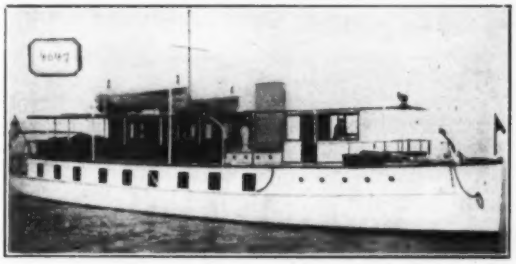
No. 1466—Offered by Estate—Particularly attractive, 138 ft. steel twin-screw cruising power yacht. Speed up to 17 miles; two 300 H.P. motors. Beautifully finished and furnished. Large dining saloon in forward deckhouse; social hall or music room in after deckhouse; three double and one single staterooms and two bathrooms aft. Cox & Stevens, 25 Broadway, New York.



No. 3151—For Sale or Charter—Particularly desirable twin-screw houseboat; 77 x 17.6 x 3 ft. Speed 11 miles; two 6 cylinder 60-70 H.P. Standard Motors new 1919. Large deckhouse containing social hall; main saloon, two double and two single staterooms, two baths and toilet rooms, etc. Handsomely finished and furnished. Cox & Stevens, 25 Broadway, New York.



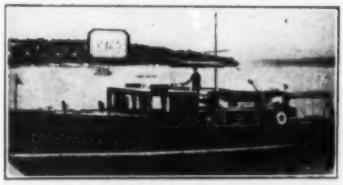
No. 603—FOR SALE—Twin-screw cruising power yacht, 83' x 14' 3" x 4' draft. Speed up to 14 miles; two 6 cylinder, 115 H.P. Speedway motors, new 1921. Large deckhouse forward containing dining saloon; 2 double staterooms, bath and toilet room below aft. Handsomely finished and furnished. Price attractive. Cox & Stevens, 25 Broadway, New York.



No. 4047—For Sale or Charter—Twin screw motor houseboat, 85' x 18' x 3.3' Winton motors. Four staterooms, two baths and three toilets below. Deckhouse 25' long, containing combination dining saloon and living room. Luxuriously fitted and furnished. All conveniences. Cox & Stevens, 25 Broadway, New York.

No. 3944—For Sale—Twin-screw cruiser; 60 ft. x 12 ft. x 3 ft. 7 in. draft. New 1920. Speed up to 14 miles; two 50 H.P. Sterling motors. Stateroom, saloon, bath and toilet, galley, etc. Price attractive. Cox & Stevens, 25 Broadway, New York.

No. 2830—For Sale—Attractive 50 ft. bridge deck cruiser in excellent condition. Two cabins, large afterdeck. Equipped with 50 H.P. heavy duty motor. Speed 11 miles. In commission. Cox & Stevens, 25 Broadway, New York.



No. 3925—FOR SALE—High speed 52 ft. Twin Screw cruiser. Speed up to 25 miles; two 200 horsepower Speedway motors. Deck dining saloon, double stateroom, toilet room, galley, etc. Cox & Stevens, 25 Broadway, New York.

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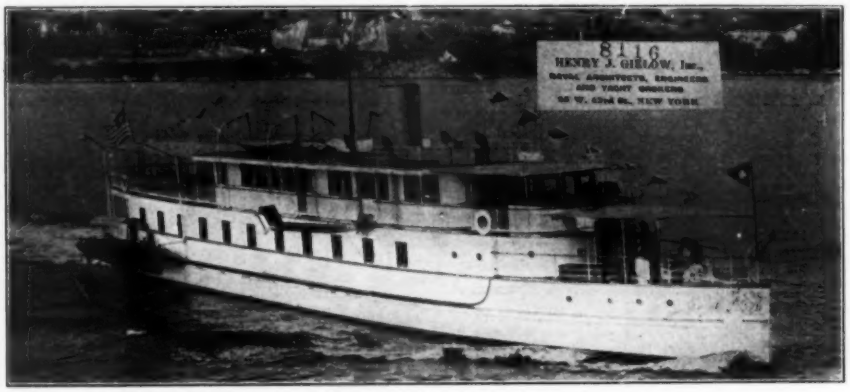

No. 8116—For Sale—L. O. A.—112 Ft.—Beam—22 Ft.

Most attractive cruising houseboat available at this time.

Seven large comfortable staterooms, two baths, big dining saloon, also music room on deck, fine crew's quarters, large roomy after deck. Cabins all well appointed with finest of equipment, completely furnished in commission with crew aboard ready for immediate delivery.

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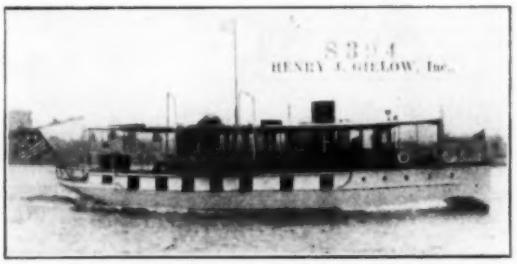
No. 7056—For Sale—Charter—Attractive cruiser with houseboat accommodations having three double staterooms, large deck house and lower saloon. Accommodate 6-9. Two 20th Century motors. Speed 10-11 miles. Bath, two toilets in owner's quarters. Dimensions are 88' x 16' x 3' 6". Hot water heat, electric plant. Completely equipped for cruising. Economical to run with crew of five men. Reasonable price. Henry J. Gielow, Inc., 25 West 43rd St., New York City.

No. 8375—Sale or Charter—Desirable brand new cruising houseboat, 55' x 15' 5" x 3, heavy construction, good finish. 60 H.P. heavy duty motor, deck controls, electric plant. Double, two single rooms, bath, saloon below and on deck. Economical with two crew. Complete. Henry J. Gielow, Inc., 25 W. 43d Street.

No. 8310—For Sale—Most desirable cruising houseboat, giving exceptional accommodations. 45' x 13' x 3'. Built best manner in 1921. Actual speed 9 miles. Double and single stateroom, saloon and deck saloon. Sleeps six. Crew staterooms forward. Delco plant, completely equipped. Near New York. Henry J. Gielow, Inc., 25 West 43d St., New York City



No. 8394—For Sale or Charter—Most attractive 70 ft. twin screw houseboat. Accommodations consist of 3 staterooms, two toilets and bath, also saloon below. Large deck house which can be used as dining saloon or living room. Sterling motors, speed 11-12 miles. Hot water heat, all conveniences. Henry J. Gielow, Inc., 25 West 43d Street, New York City.

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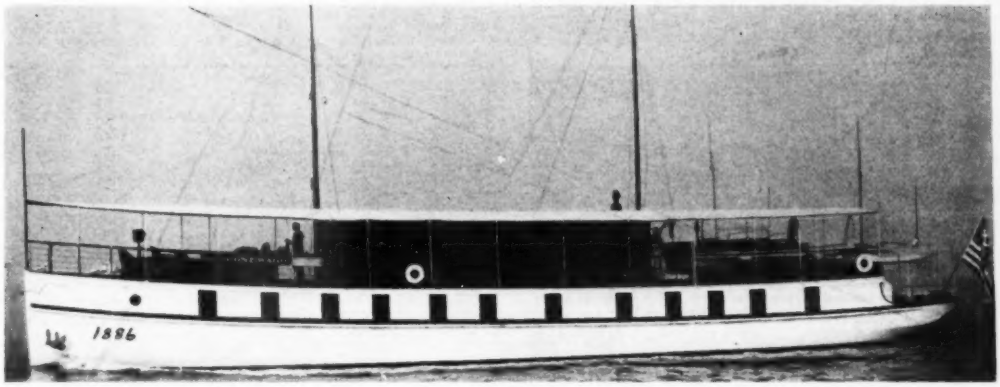
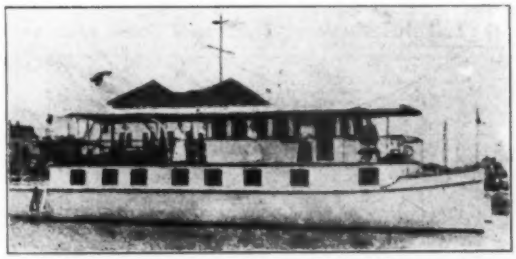
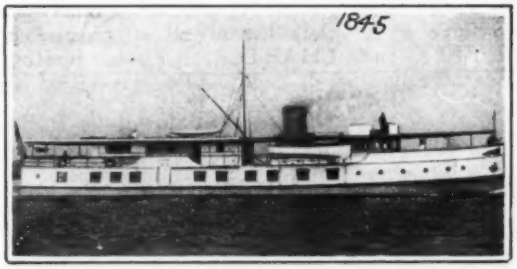


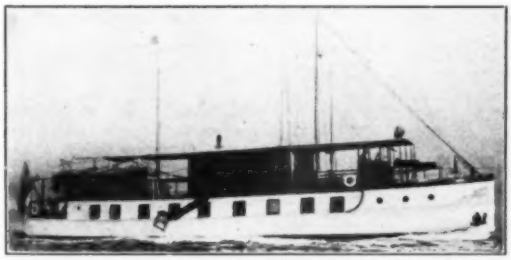
No. 1886—For Sale or Charter—This desirable 100' twin screw houseboat. The accommodations include six staterooms, 3 baths, dining saloon and deck saloon. Furnishings and equipment of the best. Winton motors give speed of 9 knots.



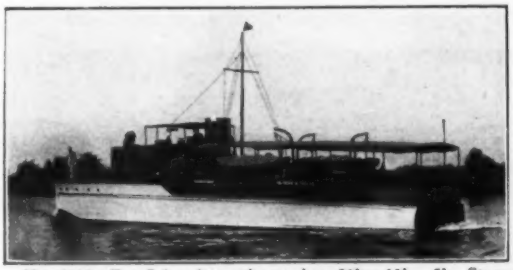
No. 1902—For Sale or Charter—64' houseboat in Florida waters. Three staterooms, bathroom and dining saloon.



No. 1845—For Charter—In commission in Florida waters. Modern triple screw houseboat. 120' 9" x 21' x 3' draft. Designed by Tams & King and built in 1920. Three Meitz & Weiss oil engines. Six staterooms, four bathrooms, dining saloon, deck sitting room, etc.



No. 1912—Sale—Charter—Attractive 77' houseboat; 2-50 H.P. Standard motors; speed 11 miles; 4 staterooms, dining saloon, deck saloon and 2 bathrooms.



No. 8102—For Sale—Attractive cruiser 81' x 13' x 5'. Standard motor speed 15 miles. Two double staterooms, large dining saloon, completely equipped and in first class condition in every department.

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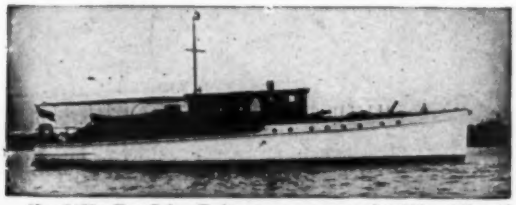
No. 1802—Sale and Charter—Steel, twin screw power yacht, 110' x 16'; two 6-cylinder Standard motors. Very large deck house and exceptional owner's accommodations. Plan and full details gladly submitted.

No. 188—Available for Florida charter—Twin screw houseboat, recently built, 60' x 15' 6" x 3' 6"; two 50 H.P. motors; three double staterooms, two berths in saloon, large deckhouse containing pilot house and dining saloon. If interested, advise quick action.



No. 2452—For Sale—Twin screw power yacht, 72' x 15' x 4'. Two new 6 cylinder Sterling motors installed 1923. Speed 15 miles. Sleeping accommodations for six or eight in owner's party.

No. 2674—For Florida Charter—Handsome 85ft. twin screw Deisel power yacht, speed 12 knots, splendid accommodation.

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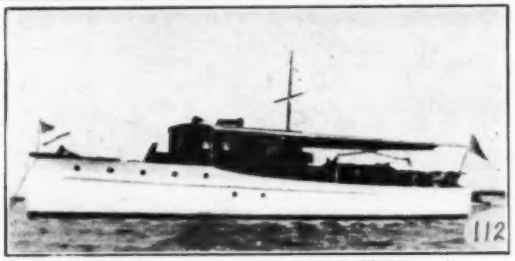
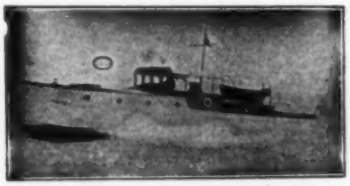
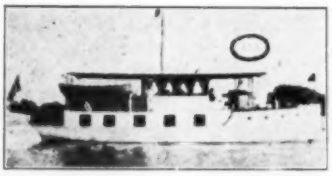


No. 1120—For Sale—55' x 13'6" x 3' draft Modern twin screw deckhouse cruiser. Built 1923. 2 double staterooms. Two medium duty 6 cyl. Scripps motors. Very attractive price for immediate sale. Henry C. Grebe & Co. Inc., 6 N. Michigan Ave., Chicago, Ill.



No. 1018—For Sale—54' Great Lakes express cruiser. New 1922. Speed 20-25 miles per hour. Double stateroom and large main saloon. Two toilets and shower bath. Well equipped and in excellent condition. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.



No. 945—For Sale or Charter—Modern 52' houseboat. Recent build. One single, one double stateroom and bath. Attractively furnished. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.

No. 1057—For Sale—Twin screw. New 1921; 50 ft. x 12 ft. x 3 ft.; very complete and in excellent condition. Sleeps six comfortably in owner's quarters. Has comfortable deckhouse and roomy afterdeck. Reasonable price. Henry C. Grebe & Co., Inc., 6 North Michigan Ave., Chicago, Ill.

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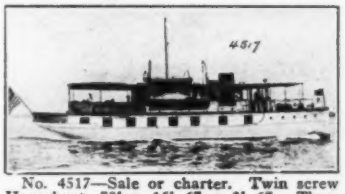
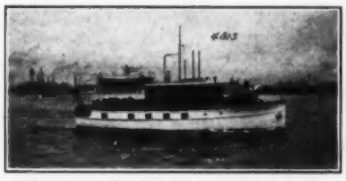


No. 4517—Sale or charter. Twin screw Houseboat, 70' x 16' 6" x 3' 6". Three double and one single stateroom. Large deckhouse containing dining and living room. Two toilets and bath. Two 70-80 H.P. motors. Speed 12–14 miles. Hot water heat. Electric lights, etc.

No. 2563—45 foot Elco Cruiser. Double stateroom. Main cabin with four berths. Two toilet rooms. Berth in engine room for man. Galley. Electric lights, etc. 42 H.P. Elco motor. Speed 11–12 miles.

No. 2483—85 foot Twin Screw Diesel Motor Yacht. Two double staterooms, dining saloon, large galley, two toilets and bath. Hot water heat. Electric lights. Up to date in every respect. Speed 11–12 knots.

No. 4399—For sale or Charter in Florida waters. Twin Screw Houseboat, 80 ft. x 18 ft. x 3 ft. draft. Seven staterooms, two bathrooms. Large deckhouse containing large dining saloon galley and social hall. Good crew's quarters with bath. Two 120 H.P. Sterling motors. Speed 11–12 miles. Electric lights. Price attractive.



No. 4513—For Charter in Florida waters, December, January. Twin Screw Houseboat, 60 ft. long. Three double staterooms; two berths in main saloon. Large deckhouse containing pilothouse and dining saloon. Two toilets and bath. Good crew's quarters. Two 40-50 H.P. motors. Speed 12—13 miles. Best houseboat of her size available. Moderate charter rate.

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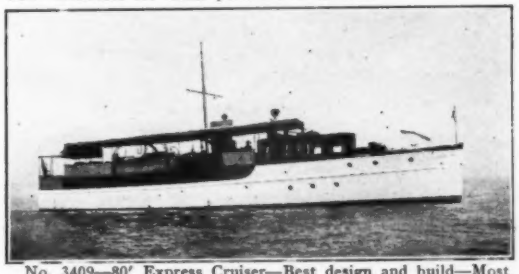
No. 495—85' Mathis Power House Yacht—Condition good as new—Available for either purchase or charter.



No. 3409—80' Express Cruiser—Best design and build—Most desirable yacht of this size and type.

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No. 1667—225' High Speed Steel Steam Yacht—Twin screw—Oil burner—Attractive price.

No. 6074—120' Power House Yacht—Heavy oil engines—Light draft—Available for Florida charter—Best large yacht to be had for the winter.

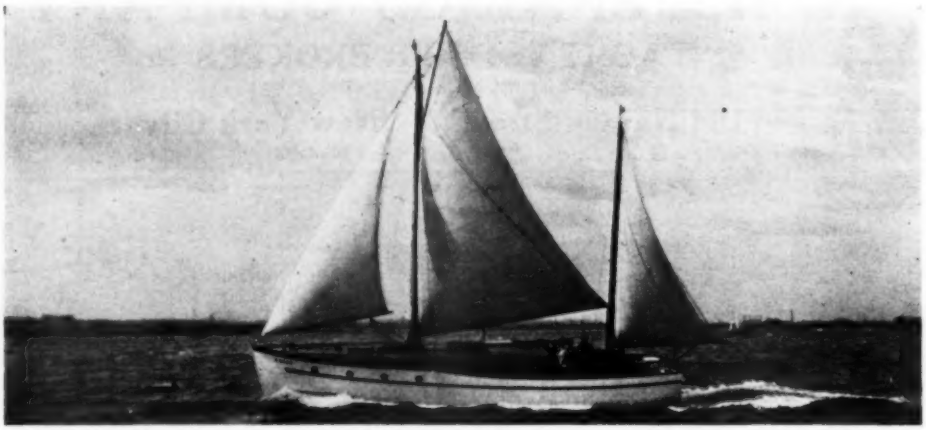
No. 6354—95' Twin Screw Power Yacht—Excellent accommodations—Either for purchase or charter.

No. 1900—81' Power Yacht new Speedway motor—2 staterooms and 2 saloons—For sale or charter at low price.

No. 7441—68' Power House Yacht—Best design and construction—Recent build—Standard motor—Can be had for charter this winter.

No. 7352—54' Great Lakes Express Cruiser—Twin screw—Sterling motors—Low price for immediate sale.

No. 7570—55' Power House Yacht—Built 1924—On way South—Accommodations equal to 65 footer—Available for purchase or charter.



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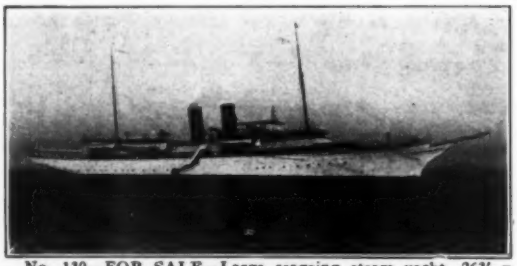
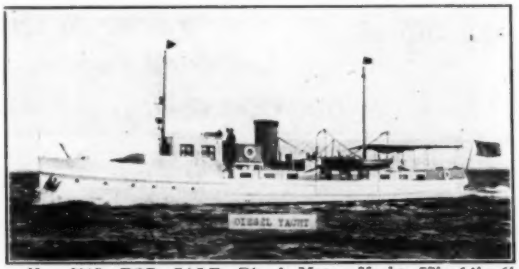
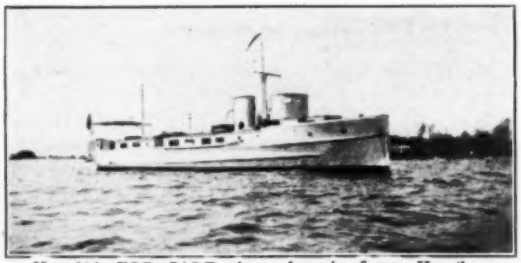


No. 130—FOR SALE—Large seagoing steam yacht, 263' x 29' x 16' draft. Palatial accommodations. Owner will sacrifice for immediate sale. For further particulars, apply to R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.



No. 3017—FOR SALE—Diesel Motor Yacht 77' x 14' x 6' draft-cruising radius 1600 miles at 10 knots. Two double staterooms and saloon. Deckhouse. Can be operated at one-half the cost of gas driven vessel same size. All motor controls on the bridge. For further particulars apply to R. M. HADDOCK, 50 East 42nd Street, New York City.



No. 316—FOR SALE—At a bargain figure Heavily constructed bridge deck cruiser, 59' O. A., 90 H.P Sterling motor-speed up to 12 M. P. H. One double stateroom and large saloon. Plainly finished throughout. Could be converted for commercial purposes if desired. For further particulars apply R. M. HADDOCK, 50 East 42nd Street, New York City

No. 471—FOR SALE—Fast Lawley designed and built express cruiser. Sterling motor, speed up to 30 M. P. H. L. O. A. 43', beam 9', draft 3', adaptable for day sailing or commuting service. For further particulars apply R. M. HADDOCK, Naval Architect and Yacht Broker, 50 East 42nd Street, New York City.

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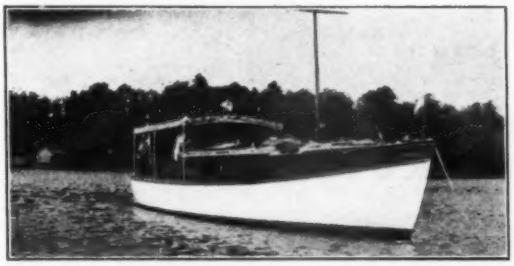
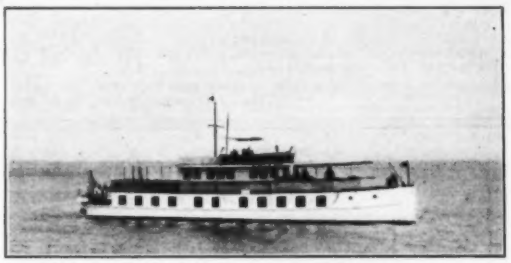


No. 1257—Raised deck Cruiser. 36' x 9' x 3'6". Frisbie Motor. Fine double stateroom and large saloon. Equipment most complete, including dinghy, crockery, cooking utensils, etc. Very highly recommended. Apply RIGG'S YACHT AGENCY, 350 Madison Avenue, New York, N. Y.



No. 959—Bargain for quick sale. Houseboat. In Florida. Dimensions 85' x 18' x 2'6" draft. Standard Motor. Has one single and three double staterooms. Excellent condition. Immediately available. Apply RIGG'S YACHT AGENCY, 350 Madison Avennue, New York, N. Y.

No. 783—Express Cruiser. Speed 25 m.p.h. Sterling Motor, 150 H.P., new 1922, fitted with electric starter. Fine accommodations for four people. Large galley. Ice box holds 200 lbs. Roomy cockpit. Apply RIGG'S YACHT AGENCY, 350 Madison Avenue, New York, N. Y.

No. 1185—Roomy power cruiser. Twin Screw. Standard Motors. Dimensions, 68' x 13' x 3'10" draft. Copper tanks. Homelite lighting plant. One double and two single staterooms. Four toilets. All in perfect condition. Good sea boat and ideal for either Northern or Southern cruising. Apply RIGG'S YACHT AGENCY, 350 Madison Avenue, New York, N. Y.

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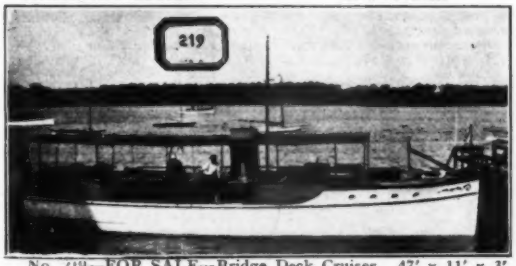
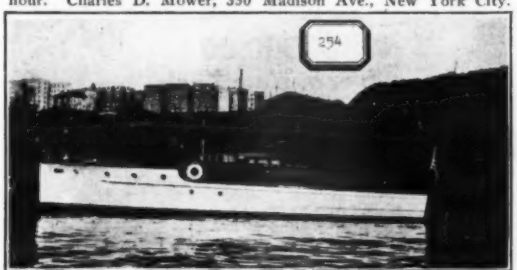


No. 219—FOR SALE—Bridge Deck Cruiser. 47' x 11' x 3'. New 1922. Fine comfortable cruiser. Speed 10-12 miles per hour. Charles D. Mower, 350 Madison Ave., New York City.



No. 254—FOR SALE—Bridge deck cruiser, new this year. 46' x 11' x 3' 3". Excellent accommodations. Charles D. Mower, 350 Madison Ave., New York City.

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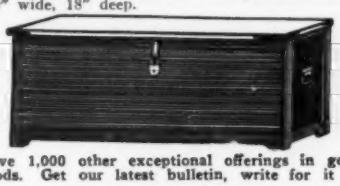
Another Navy Bargain

GET A U. S. NAVY CHEST

Just the thing for storing clothes, food, tools, etc. Made to government specificaticns and quality, varnished inside, finished outside in battleship gray. Brass and galvanized quadrants, hinges, handles, hasps and padlock. Size 4' 17" long, 20" wide, 18" deep.

NOW'S THE TIME



PRICE $7.50

We have 1,000 other exceptional offerings in government goods. Get our latest bulletin, write for it now.

E. J. WILLIS CO.

85 Chambers St. New York, N. Y. 67 Reade St.

THE MOTOR BOATING MARKET PLACE

Opportunities for the Motor Boatman

The rate for "For Sale" and "Want" advertisements is 8 cents per word, minimum $2.00. If an illustration is used, the charge is as follows, which includes the making of the cut:

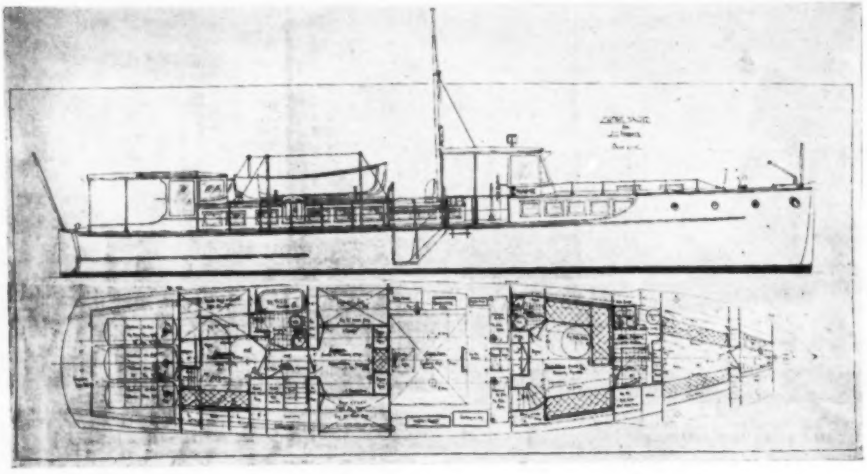
Cut one inch deep, two inches wide..... $ 9
Cut 1½ inches deep, three inches wide..... $12
Cut 2¼ inches deep, four inches wide..... $20
Cut 2¾ inches deep, six inches wide..... $25

Before you buy or before you sell examine the exceptional buying and selling opportunities under this heading. They comprise the best offers of the month. Please mention MoToR BoatinG.

MoToR BoatinG, 119 West 40th St., New York

Classified advertisements set entirely in small light face type. No extra charge for capitals. Bold face type used at display rate, $12 per inch, single column. New advertisements can be accepted up to twelfth of month for following issue

LAPWING TYPE CRUISERS



Estimates furnished for building Pleasure Craft DE LUXE. We can save 20% in cost of construction and produce an exceptionally fine yacht. Materials, furnishings and fittings imported, and best of their several kinds. Workmanship first class. Yachts double planked, outer planking mahogany. Decks of Teak. Orders taken now for Spring delivery.

Reference: National Shawmut Bank, Boston, Mass.

J. E. DOHERTY COMPANY

10 High Street, Boston, Mass.

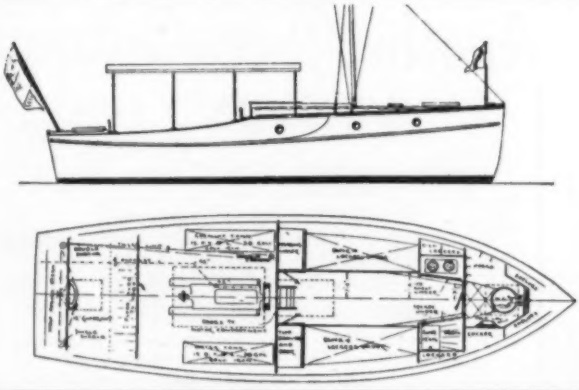
Yacht Brokers, Designers and Builders of Pleasure Craft DE LUXE

GET OUR PRICES FIRST

AS distributors for the best makes of marine engines we receive in trade the finest used engines. Dismantled and rebuilt by our expert mechanics, these trade-in engines emerge from our shops practically new and in fact run better than many new engines. Masters Rebuilt Engines are a sound investment, a company with sixteen years experience is in back of them.

W. L. Masters & Co., Bush Temple Bldg., 800 No. Clark St., Chicago, Ill.

Distributors in Chicago territory for Kermath, Stearns, Frisbie, Universal, Evinrude, Johnson
Also for Joes Reverse Gears and Hyde Propellors



WM. ATKIN'S DESIGN

30 ft. Cruiser—9 ft. 2 in. Beam
With 18—24 H. P. Red Wing motor

$3300.00

f. o. b. New York

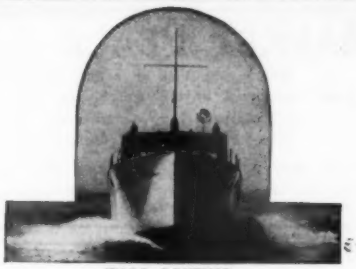
Time payments arranged in New York and Vicinity

Ask for descriptive circular

J. WORTSMANN

154 Nassau Street **New York City**

Advertising Index will be found on page 138.



FALL LISTING.

110′ x 18′ x 6′ Bridge Deck Cruiser. (2) 180 H.P. Craig-Diesel Engines
98′ x 17′ x 6′ Bridge Deck Cruiser. (2) 250 H.P. Winton Engines.
81′ x 14′ x 3′ 7″ Bridge Deck Cruiser. (2) 200 H.P.Van Blerck Engines.
80′ x 14′ x 3′ 6″ Bridge Deck Cruiser. (2) 75 H.P. Standard Engines.
75′ x 16′ x 4′ Bridge Deck Cruiser. (2) 75 H.P. 20th Century Engines.
72′ x 12′ 6″ x 4′ Raised Deck Cruiser. (2) 150 H.P. Winton Engines.
70′ x 14′ x 3′ 6″ Bridge Deck Cruiser. (2) 150 H.P. Standard Engines.
67′ 6″ x 11′ 10″ x 4′ 6″ Bridge Deck Cruiser. 85 H. P. Sterling Engine.
65′ x 14′ x 4′ 7″ Bridge Deck Cruiser. 80 H.P. Winton Engine.
64′ x 11′ 11″ x 4′ 6″ Bridge Deck Cruiser. 50 H.P. Sterling Engine.
60′ x 12′ x 4′ Bridge Deck Cruiser. (2) 55 H.P. Sterling Engines.
60′ x 13′ x 3′ 6″ Raised Deck Cruiser. 75 H.P. 20th Century Engine.
60′ x 15′ 7″ x 4′ 6″ Raised Deck Cruiser. 75 H.P. Murray & Tregurtha Engine.
58′ 6″ x 12 x 4′ Bridge Deck Cruiser. 90 H.P. Murray & Tregurtha Engine.
57′ x 13′ x 3′ Bridge Deck Cruiser. (2) 35 H.P. Standard Engines.
52′ 9″ x 8′ 6″ x 3′ 3″ Bridge Cruiser. 40 H.P. Lathrop Engine.
48′ 9″ x 12′ x 3′ Bridge Deck Cruiser. (2) 24 H.P. Palmer Engine.
45′ x 10′ 6″ x 3′ Bridge Deck Cruiser. 45 H.P. Fay & Bowen Engine. Built 1922.
42′ 10½″ x 10′ 2′ 9″ Bridge Deck Cruiser. 150 H. P. Van Blerck Engine. Built 1923.
42′ 6″ x 10′ 6″ x 3′ Raised Deck Cruiser. 45 H. P. Lathrop Engine.
41′ 6″ x 9′ 6″ x 3′ 3″ Bridge Deck Cruiser. 85 H. P. Van Blerck Engine. Built 1921.
41′ x 10′ x 3′ 6″ Raised Deck Cruiser. 85 H.P. Sterling Engine.
37′ 2″ x 8′ 6″ x 3′ Raised Deck Cruiser. 35 H. P. Six cylinder Engine.
38′ 6″ x 10′ x 2′ 6″ Bridge Deck Cruiser. 45 H. P. Scripps Engine.
34′ x 9′ x 3′ Bridge Deck Cruiser. 18 H. P. Knox Engine.
32′ x 9′ x 2′ 6″ Raised Deck Cruiser. 35 H. P. Sterling Engine.

ELCO CRUISERS.

56′ x 11′ x 4′ Elco Cruiser. 45 H. P. Sterling.
50′ 10″ x 10′ 7″ x 3′ 3″ Elco Cruiser. 150 H. P. Sterling.
45′ 10″ x 10′ 7″ x 3′ 4′ Elco Cruiser. 37 H. P. Standard.
34′ x 9′ x 2′ 6″ Elco Cruiser, 1923. J. V. B. Engine.
32′ x 8′ 6″ x 2′ 6″ Elco Cruiser. 30 H. P. Wisconsin.

EXPRESS CRUISERS.

72′ x 13′ x 3′ 4″ Express Cruiser. (2) 400 H. P. Allisons.
62′ x 12′ 6″ x 3′ Great Lakes Cruiser. (2) 180 H. P. Speedways.
57′ x 11′ x 4′ Inclosed Bridge. 125 H. P. Van Blerck.
55′ x 11′ x 2′ 9″ Hand V-bottom. (2) 150 H. P. Van Blercks.
54′ x 11′ x 3′ 4″ Great Lakes. (2) 225 H. P. Sterling.
52′ x 11′ 4″ x 3′ 4″ Seabury Cruiser. (2) 135 H. P. Speedways.
50′ x 10′ 6″ x 3′ 9″ Great Lakes. 200 H.P. Van Blerck.
50′ x 11′ x 3′ Albany Cruiser. (2) 150 H.P. Van Blerck.
48′ 6″ x 10′ 4″ x 3′ 6″ Lawley Cruiser. (2) 200 H. P. Sterlings.
45′ x 10′ 4″ x 2′ 9″ Rochester Cruiser. 85 H. P. Sterling.
42′ x 9′ x 2′ 11″ Lawley Cruiser. 300 H. P. Sterling.
36′ x 8′ 2″ x 2′ 11″ Express Cruiser. 100 H. P. Hall-Scott Marine

HOUSE BOATS.

100″ x 22′ x 4′ House boat. (2) 100 HP Fairbanks-Morse.
73′ x 16′ 6″ x 3′ 6″ N. Y. Y. L. & Eng. Co. (2) 50 HP 20th Centuryes.
70′ x 17′ 3″ x 3′ HouseBoat. (2) 30 HP Palmers.
60′ x 14′ x 2′ 6″ J. M. Watts design. (2) 75 H.P. Standards.
60′ 8″ x 16′ 2″ x 3′ 2″ Mathis. 75 H.P. Standard.
55′ x 15′ x 3′ 1924 Houseboat. (2) 40 H.P. Domans.
52′ 14′ x 3′ 6″ Mathis. 37 H.P. Standard.
50′ x 14′ 6″ x 3′ House Boat. 50 H.P. 20th Century.

AUXILIARIES.

136′ x 25′ 6″ x 14′ 3″ Auxiliary Schooner. 125 H.P. Murray & Tregurtha.
75′ x 18′ x 4′ C. B. Aux. Schooner. 40 H.P. J. V. B.
63′ 6″ x 15′ 6″ x 4′ C. B. Aux. Yawl. 40 H.P. Scripps.
60′ x 16′ x 4′ C. B. Aux. Schooner. 40 H.P. Frisbie.
47′ x 14′ 4″ x 3′ 6″ Marconi Aux. Schooner. 37 H.P. Standard.
44′ x 13′ x 5′ Keel Yawl. 12 H.P. Palmer.
43′ x 11′ 6″ x 3′ 10″ C. B. Aux. Yawl (Crosby). 16 H.P. Standard.
40′ 10″ x 14′ x 5′ 6″ Aux. Keel Schooner. 12 H.P. Lathrop.
39′ 6″ x 12′ x 3′ 6″ C. B. Aux. Yawl (Crosby). 5 H.P. Mianus.
35′ x 12′ 6″ x 3′ 6″ C. B. Yawl. 12 H.P. Beaver.
32′ 8″ x 12′ 5′ Keel Aux. Yawl. 18 H.P. Gray.
31′ 10″ x 12′ x 4′ 6″ Keel Cat Ketch. 7 H.P. Frisbie.
26′ 5″ x 9′ 6″ 3′ 3″ V-Bottom Schooner. No engine.

And many other type yachts and commercial boats.

YACHTSMEN'S SERVICE AGENCY

1233 Real Estate Trust Building Phone: Walnut 4830
Philadelphia, Pa.

27 FOOT LAUNCH HULL

One left of our Standard Hunting Cabin Launches, 7 ft. beam, 2 ft. draft. Has a large comfortable cabin. Large cockpit. These launches are handsomely finished, fast, able and very easy in rough weather. Built in our best fashion. A great Bargain. Write us for particulars.

MARBLEHEAD YACHT YARDS, INC. Marblehead, Mass.

Work Sloop, no power—40′ C.A., 35′ W.L., 15′ beam, 3′ 6″ draught. Sail 1 year old thoroughly overhauled at Mort Johnson's, Bay Head, New Jersey, in August, 1924. Can be seen at Toms River, N. J.; will be sold cheap. Write: Jos. R. Hensler, 73 Wilson Ave., Newark, N. J.

For Sale for Immediate Shipment—New 35′ x 6′ 8″ Crouch designed all mahogany runabout, ideal for Florida waters. Engine bed ready for 200 to 400 H.P. engine. Controls in forward cockpit, which seats six people. Big after cockpit. Boat complete, ready for engine. G. F. Elliott, Boat Builder, Foot of Amherst St., Buffalo, N. Y.

A SUMMER HOME AFLOAT

THE MATTHEWS COMPANY
PORT CLINTON, OHIO

Length 38 ft.
Beam 11 ft. o.a.
Draft 3 ft.
Accommodation, four to seven people.
Speeds, 12 to 20 miles.
Power, 50 to 200 h.p.
Sold complete, including auxiliary sails.

INFORMATION ON REQUEST

MATTHEWS 46- and 65-ft. STOCK DESIGN CRUISERS

Over Thirty Years the Standard of Comparison in Excellence of Design and Construction

AN OPPORTUNITY FOR RESPONSIBLE DEALERS

THE MOTOR BOATING MARKET PLACE

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Cut one inch deep, two inches wide..... $ 9
Cut 1¼ inches deep, three inches wide..... $12
Cut 2¼ inches deep, four inches wide..... $20
Cut 2¾ inches deep, six inches wide..... $25

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Opportunities for the Motor Boatman

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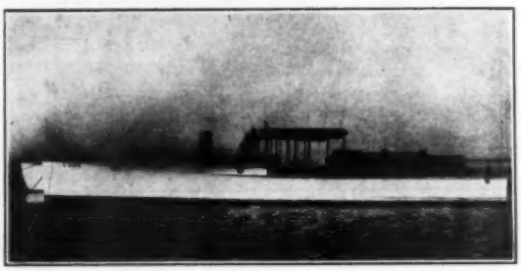
MoToR BoatinG, 119 West 40th St., New York

No. 2630—For Sale or Charter—Now in Florida, in commission — Especially attractive, fast, roomy, twin screw, cruising motor yacht; 81 ft. 6 in. overall, 14 ft. 6 in. beam, 3 ft. 6 in. draft. Speed 17-18 miles; two 200 H. P. Speedway Motors. Exterior joiner work of mahogany throughout. Accommodation unusually large, consisting of dining saloon in forward deckhouse, separate galley directly aft of same; aft are two double and one single stateroom, also vestibule with settee, bathroom and additional toilet room. Large enclosed bridge and exceptional amount of available deck space over trunk cabin, in addition to after shelter cockpit. Owner will sell at very attractive figure as has just taken delivery of larger yacht. For price, further particulars, plan, etc., apply to Cox & Stevens, 25 Broadway, New York. Telephone Whitehall 2700.



NO. 2821—FOR QUICK SALE—53' EXPRESS CRUISER; 2 CABINS AFT; CREW'S QUARTERS FORWARD; ENGINE UNDER SEMI-ENCLOSED BRIDGE; TWIN 100 H.P. SCRIPPS MOTORS, INSTALLED SUMMER OF 1924; CRUISING SPEED 19 TO 20 MILES. LOCATED NEAR BOSTON. APPLY JOHN G. ALDEN, 148 STATE STREET, BOSTON, MASSACHUSETTS.

This Book Is Yours As a Gift

THE YACHTSMAN'S ANNUAL GUIDE

A Book Every Motor Boatman and Sailor Needs

For a limited time we offer this valuable book and one year's subscription to MoToR BoatinG for only $3.50. ACT NOW! Send for your copy today.

MoToR BoatinG, Dept. 1224,
119 West 40th Street, New York.

Gentlemen: I want the newly published 1924 YACHTSMAN'S ANNUAL. Enter my name for a one year's subscription to MoToR BoatinG, and send me the book.

Check below method of payment. 66

I enclose $3.50. I will remit $3.50 on receipt of bill.

Name .....

Address .....

City ..... State .....

(Foreign postage other than Canada $1.00 extra per year)

Advertising Index will be found on page 138.

Your Boat Should be Listed with Hanson

Now is the time to send me full information for the Sale of your Yacht or Motor Boat.

The Motor Boat Show coming early, it is necessary for me to have this information now, so I can present your boat to interested buyers.

THOMAS S. HANSON Personal Service BROKERAGE

Formerly General Manager of the Elco Works, of Bayonne, N. J.

19 WEST 44th STREET Telephone, Murray Hill 8676 NEW YORK CITY

If you wish to purchase a Yacht or Motor Boat, tell me your requirements - - - I will gladly advise you.

My purpose is to recommend only those boats I know will fulfill your needs.

FOR SALE
DAY CRUISER "GREYHOUND"

Ideal Boat for Florida Winter Use

Day Cruiser "Greyhound." Built 1916 by Wood & McClure. Designed by Tams, Lemoine & Crane. Mahogany throughout, natural finish. Trunk cabin with toilet and galley. Will sleep two comfortably — crew's quarters for three. L. O. A. 58 ft. Beam 10′ 5″. Depth 5 ft.

Power — Two 12 cylinder, 450 H.P. Liberty Motors in excellent condition.

Maximum speed 33 M. P. H. Cruising speed 20 M. P. H.

Price $35,000 net to owner.

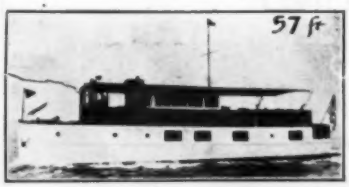
Address inquiries to Edsel Ford, Ford Motor Company, Detroit, Michigan.

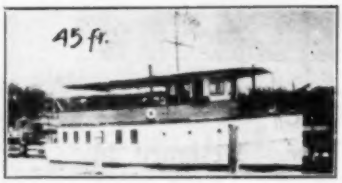
SOUTHERN YACHT AGENCY

American Bldg., Baltimore, Md.

FOR SALE OR CHARTER
Some excellent Cruising Houseboats in practically every size built. We call especial attention to some wonderful bargains in following sizes:

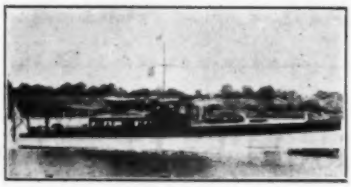
86 ft.—85 ft.—80 ft.—77 ft.
70 ft.—61 ft.—57 ft.—52 ft.
50 ft.—45 ft.





SOUTHERN YACHT AGENCY

American Bldg., Baltimore, Md.



For Sale—53 ft. Express Cruiser in first class condition. For prompt sale will sell at price that will surprise you. SOUTHERN YACHT AGENCY. American Building, Baltimore Md.

Two practically new Model E 6 Scripps, both equipped with electric starter, generator, two sets of ignition, magneto and distributors, all complete including built-in reverse gears, rebuilt and covered by our rock bound guarantee

Late 1923 Model..... $1,100.00
Late 1924 Model..... 1,200.00

Bargains—Act quickly

BRUNS KIMBALL & CO., INC.
50–54 West 17th St., New York City

STERLING BARGAINS

STERLING—Heavy Duty type, 6½" x 8". Reconditioned. New cylinder blocks, manifolds etc. Full equipment, $1,000.
STERLING—Medium Duty type, 5½" x 6". Overhauled. Full equipment, $600. HOLT MARINE ENGINEERING CORP., 611 West 125th St., N. Y. City.

YACHT CLUB MEMBERSHIPS

The Hudson River Yacht Club is prepared to accept new members under advantageous conditions. Attractive clubhouse, restricted membership, good anchorage, most convenient location. Commodore E. Spindler, Hudson River Yacht Club, West 92nd Street, New York City.

FOR SALE—Runabout Panhard, Mississippi Valley Champion 1921. Electric Starter, etc. Ready to run. Also motors all kinds 25 to 40 Horsepower, including Erd 30 Horsepower. F. T. Holiday, Indianapolis, Indiana.

TRIMOUNT WHISTLE BLOWER OUTFITS
Friction contact with engine flywheel.
3 sizes.

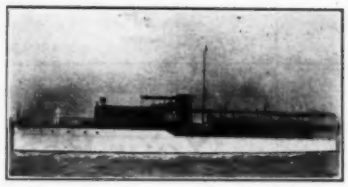
TRIMOUNT ROTARY HAND BILGE PUMPS
All bronze composition. Suction lift 6 to 20 feet.
3 sizes.

A tremendous success—a high-speed, bronze Power Pump for $15.00

TRIMOUNT ROTARY POWER CO.
294 Whiting Ave., East Dedham, Mass.

FOR SALE—Twin screw express cruiser, V-bottom, 60' x 12' x 3', speed 30, built 1924. Four cylinder light plant, electric cooking, hot and cold water, hot water heating system, two baths, three toilets, sleep eight. Must sell quick. Others up to 77'; cruisers up to 100'; schooners 32 to 120'. Harry L. Becker, 185 Pine Street, Providence, R. I.

Four cyl. four cycle with reverse gears—Clifton, 8½ x 11, $650; Campbell, 6½ x 7, $425; 30 H.P. Monarch, 5 x 6, $335; 30 H.P. Buffalo, 5½ x 6½, $395; 35 H.P. Schaefer, 5½ x 6, $285; 30 H.P. Doman, 5 x 6, $275; 35 H.P. Red Wing, $415; 30 H.P. Truscott, 4½ x 5, $215; 30 H.P. Erd, 4¼ x 5, new $315; 20 H.P. Dunn, 4¼ x 5, $125; 16 H.P. Roberts (new), 3¾ x 4, $195; 16 H.P. International (new), 3¾ x 4, $215. Six cyl. VanBlerck, 5¼ x 6½, $485; six cyl. Milwaukee, 6½ x 7, $395. 20 H.P. Truscott, three cyl. 6 x 6, $225. Two cyl. two cycle—20 H.P. Roberts, $95; 15 H.P. Ferro, $90; 12 H.P. Ferro, $80; 10 H.P. Wonder, $75; 8 H.P. Ferro, $75; 8 H.P. Gray (new), $145; 6 H.P. Motorgo, 75; 6 H.P. Lockwood-Ash, $65; 6 H.P. Ferro special, $60. 25 H.P. Ferro, three cyl., $135; 18 H.P. Waterman, four cyl., $135. Evinrudes and one cyl. inboard motors. Badger Motor Company, Milwaukee, Wis.



For Sale—82 ft. Lawley Cruiser. In perfect condition. In commission. Sell at one third cost. SOUTHERN YACHT AGENCY American Bldg. Baltimore, Md.

FOR SALE

Two 15'x2½ Bronze Propeller Shafts, Tapered, Key Seated and Threaded, each $50.00
One Johnson Outboard Motor, Salt Water Type, slightly used..... $125.00
One Johnson Outboard Motor, Fresh Water Type, slightly used..... $110.00

f. o. b. Washington, D. C.

PERCY M. CHILD
1110 14th St., N. W., Washington, D. C.

STATEMENT of the Ownership, Management, Circulation, Etc., required by the Act of Congress of August 24, 1912, of MoToR BoatinG, Published monthly at New York, N. Y., for October 1, 1924.

State of New York } ss.:
County of New York }

Before me, a Notary in and for the State and county aforesaid, personally appeared C. F. Chapman, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the MoToR BoatinG, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, International Magazine Company, Inc., 119 West 40th Street, New York City; Editor, C. F. Chapman, 119 West 40th Street, New York City; Managing Editor, C. F. Chapman, 119 West 40th Street, New York City; business Manager, C. F. Chapman, 119 West 40th Street, New York City.

2. That the owner is: (If the publication is owned by an individual his name and address, or if owned by more than one individual the name and address of each should be given below; if the publication is owned by a corporation the name of the corporation and the names and addresses of the stockholders owning or holding one per cent or more of the total amount of stock should be given.) International Magazine Company, Inc., 119 West 40th Street, New York City; Hearst Publications, Incorporated, 119 West 40th Street, New York City; Star Holding Company, c/o Corporation Trust Company of America, Wilmington, Delaware. Sole Stockholder, W. R. Hearst, 137 Riverside Drive, New York City.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

C. F. CHAPMAN, Business Manager.

Sworn to and subscribed before me this 23rd day of September, 1924.

[Seal] WILLIAM J. SPERL.

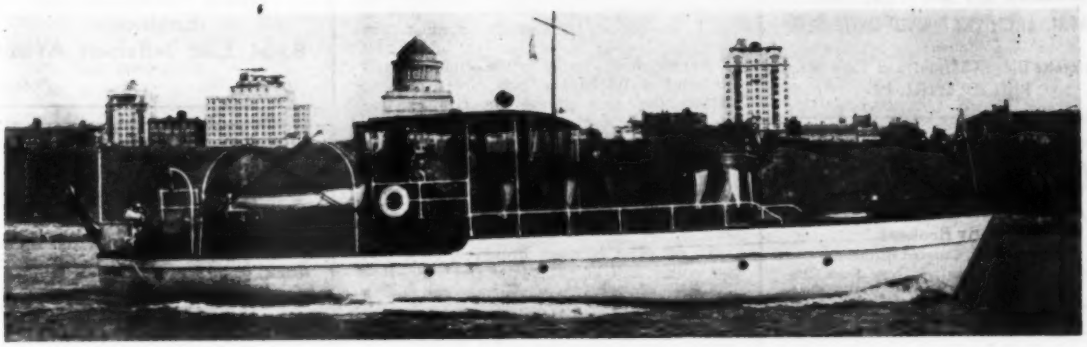
Notary Public, Queen's County, No. 3717. Certificate filed in New York County, No. 1049; Reg. No. 5832. Commission expires March 30, 1925.

Advertising Index will be found on page 138.

Rebuilt Marine Engines of all sizes, types and makes may be purchased from us at savings as high as 60% of the new cost. A stock of almost three hundred machines is always available and every rebuilt engine sold by us is backed by our Rock-Bound Guarantee.
The fact that we are the oldest and largest dealers in the world should assure you of our responsibility.

BRUNS KIMBALL & CO., INC.

50-52-54 West 17th St., New York, N. Y.
102 South 4th St., Philadelphia, Pa.



For Sale. 60'0" x 13'0" x 3'6" draft twin screw raised deck cruiser now in Florida. Excellent boat for southern waters. Layout includes 18'0" saloon, two double staterooms, sleeping accommodations for ten persons and crew of four. Owner buying larger yacht. Bargain for immediate sale. For further particulars apply to Henry C. Grebe & Co., Inc., 6 N. Michigan Avenue, Chicago, Illinois.

WANTED—A GOOD FAST 25 FT. RUNABOUT. ANTON HULMAN & CO., TERRE HAUTE, IND.

DO YOU WANT A GOOD 45' x 12' BOAT FOR FLORIDA, NEW 1924? APPLY, C. GRECHT, 1330 S. SHARP ST., BALTIMORE, MD.

WANTED—8 FOOT 6 INCH SEA SLED YACHT TENDER. WESCON, 262 LAFAYETTE ST., NEWARK, N. J.

WANTED TO BUY—Three cyl. two cycle 18-25 H.P. Pierce-Bud marine engine. A. H. Lauson, 215 North Ave., Milwaukee, Wis.

WANTED—Auxiliary yawl, ketch or schooner LOA 32—40', draft 4', headroom 6', accommodate 4. T. P. Hammer, Drexel Building, Phila.

3 Cylinder, 18–25 H.P., Pierce Budd Motors almost new. A7A Hall-Scott with pump and flywheel. Propellers. 18' and 21' Runabouts in stock, 25 to 50 M. Per H. BARTEAU BOAT WORKS, Montague, Mich. on White Lake.

Wanted: Good, reliable, seaworthy runabout; built 1923 or 1924. Interest only in 26 to 32 footer. Geo. Benging, 830 Thirteenth St., N. W., Washington, D. C.

For sale or exchange for suburban home within commuting distance of Boston 110x17x9 Motor Yacht steam yacht style in good condition. Deck dining saloon, Bath, Toilets, Electric lights dynamo and batteries, cost owner $20,000 three years ago, will sell for $10,000 cash or equal value. Inspection photo and full particulars from George G. R. Parsons, P. O. Box E5163 St. John's, Newfoundland.

For Sale—18 ft. canoe equipped with 5 H.P., 2 cyl., 2 cyc. Waterman motor. Light and steady. Will carry three safely and comfortably. H. L. Johnson, R.F.D. 5, South Bend, Ind.

31 Bargains. New bargain list just off press; bonafide bargains in engines 4 H.P. to 35 H.P. Few heavy duty, mostly medium duty, and some speed boat engines for speeds up to 25 miles. Examples:—Two cycle 4 H.P. $40; 6 H.P. $50; 12 H.P. $95. Four cycle 16 H.P. $195; 20 H.P. 4 cycle $189; Another 20–24 H.P. same model $255; Model "D" same as new $285; New 6–8 H.P. $111. Ask for bargain list "G". Grav Marine Motor Co., 6910 Lafayette Ave., Detroit, Mich.

For Sale—Cruiser Houseboat, seaworthy, reliable, roomy, 45' x 14'. New 40 horse Automatic Piano and all the comforts of home, sacrifice, $3,500. Higgins, 220 West 42nd, New York.

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U. S. Navy Triple Expansion and Fore and Aft Compound Marine Steam Engines and Boilers

QUANTITY (10) Standard U. S. Navy Triple Expansion, vertical steam engines, complete with pumps, etc. Approximate 125 H.P., Cylinders 6" High Pressure; 9¼" Int.; 15¼" Low Pressure; 10" Stroke. Cost U. S. Navy $5,000 to build. Price while they last $525 each, f.o.b. cars New York. These engines are new, never having been installed. Ideal for small tugs and launches from 80' to 100'.

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QUANTITY (2) Ward Watertube Boilers. Good for 225 lbs. steam pressure. Measure 43" square at the base. Complete with water column glass, safety valve, steam gauge, stack, etc. Can readily be converted to oil burner. Price complete $550.

Write for description and blue prints. ECONOMY STEEL & TOOL COMPANY, 30 Church Street, New York City. Phone Cortland 6400.

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MOTOR BOATING
MARKET PLACE
See Rates on Page 66

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Hall-Scott	Lockwood-Ash	Automatic	Johnson Outboard Motor

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Naval Architects and Yacht Builders
EAST GREENWICH, R. I.
STORAGE—REPAIRS—MARINE RAILWAY

A Rigid Pipe Design

(*Continued from page* 50)

box. These propeller stuffing boxes come threaded for ¾ inch pipe using ⅝ inch diameter shaft up to 2 inch pipe for 2 inch diameter shaft. Before attaching the stuffing box, the crosstie timber should be put into place, securely fastening it to the frames on either side of the boat as shown in sketch. Then attach the stuffing box, which in turn should be rigidly bolted to the crosstie. In this way the pipe is held firmly at both ends, against any working loose.

As anything striking the rudder tends to send it up in the pipe, it is well to attach the pipe sleeve or coupling as shown to the bottom end of the tube, and attach a set screwed collar on the shaft directly under it.

It is assumed that weight of the rudder and rudder post will be borne by the skeg to which it is usually attached at the lower end.

If no skeg is used, however, a second set collar will be necessary and should be located directly over the stuffing box gland. Use set collars with two set screws at 90 degrees to each other. Sunken set screws are best in the under water parts.

W. E. M., PHILADELPHIA, PA.

Brass Pipe Reduces Deposits

(*Continued from page* 52)

paint or enamel before reassembling. Holes or openings to the jacket are plugged or corked, and enough paint to fill the jacket is poured or pumped in through a cleaned oil or grease gun. After several hours' drying, plugs are removed, and, although a good deal of paint runs out, the jacket interior surfaces are sufficiently coated to prevent rust for at least a year.

Despite a good strainer on intake pipe, scale and mud, sea-weed and slime sometimes obstruct water here. Generally it is possible, save in low installations, to remove a plug, cap, or joint and insert a plumber's force-cup pump at the top of inlet or overflow pipes in this condition and clean them quickly. When necessary to bring it above the water line of the boat, an iron pipe extension or stiff hose is attached above the clogged pipe, and the force-cup run down through this with a long handle.

Occasionally a slipping pump shaft or impeller, loosened pump stuffing box packing, or bits of gasket obstruct water flow. If overheating develops rather suddenly, it is well to inspect these parts before assuming the trouble is in dirty jackets or lines.

When laying up, it is a good precaution to drain water while warm, rock the boat if possible, and pour or pump a mixture of kerosene and medium motor oil (about half-and-half) into the bottom of the water jackets. D. McC., CLEVELAND, O.

Preventing Deposits in the Water-Jacket

DEPOSITS of mud and scale in the water-jacket of a motor may become very annoying and even dangerous if the condition is allowed to continue until the water-jacket is so filled that the lower part is not properly cooled. There is a possible chance of the jacket cracking from unequal expansion of the iron, and a more likely chance of damage due to the freezing of the wet mass that has accumulated. An engine in this condition may overheat for all there is a good circulation of cooling water. The filled up condition of the water-jacket prevents the rapid transfer of heat from the cylinder walls to the water and, therefore, it retards the transfer of heat from the pistons to the cylinder walls; resulting in excessive wear and a lowered compression due to the thinning of the lubricating oils from the excessive heat. Undue crankcase oil dilution with a consequent rapid wear on all rubbing surfaces results. Knocking and preignition with a loss of power are the signs of overheating most in evidence, but the overheating may not be caused by a decrease of the cooling area alone. Improper ignition and carbureter adjustments may be the cause but in this case, readjustment should cause the motor to operate at normal temperature.

A clogged water-jacket may be cleaned by filling it with a 3% to 5% solution of hydrofluoric acid for from 3 to 5 hours. The acid will dissolve the accumulation of sand, mud and scale but will not attack the metal. Muriatic acid in the same proportions will dissolve the accumulation but muriatic acid readily attacks metals. Before applying the acid treatment, loosen all you can with a wire through the connections and rinse out with water, preferably under pressure. Then plug all openings but one and fill with the acid dilution. When clean fill with limewater to neutralize any acid remaining, rinse with clean water and let dry.

To prevent the reforming of rust and scale, apply to the jacket walls a heatproof and waterproof coating. There is a paint patented in Germany, for protecting boiler plate from scale. It is made by mixing 1 pound each of train oil, parafine, horse fat, and finely ground zinc white. To this mixture is added 4 pounds of graphite and 1 pound of soot made into a paste with 1 1/5 pints of water to which has been added 1½ ounces of carbolic acid. The zinc white and the horse fat form a soap hard to fuse, which adheres strongly to the iron and binds the graphite and the soot, and the parafine prevents

(*Continued on page* 86)

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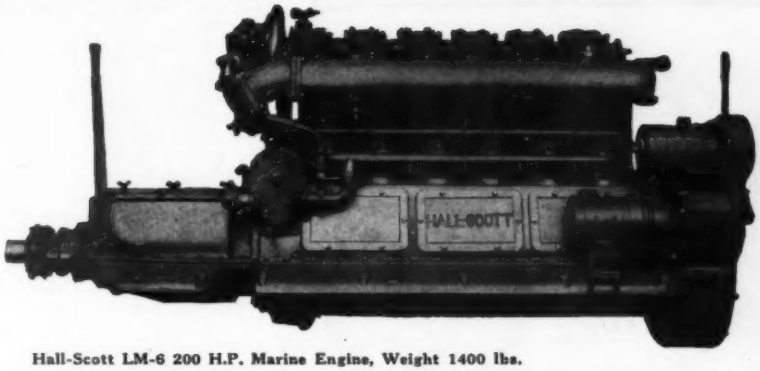
HALL-SCOTT



Hall-Scott LM-6 200 H.P. Marine Engine, Weight 1400 lbs.

The Engine for Florida Boats

THE buoyant carefree spirit of the Florida boating season is matched by the characteristic operation of Hall-Scott Marine Engines. Designed to run continuously and dependably at high revolutions, their great power and speed together with freedom from noise, vibration and other annoyances, insure maximum service with minimum attention.

Many well known Florida boats of the past few years are Hall-Scott powered. This season will see important additions to the fleet. The greater range of sizes now available provides suitable power plants for runabouts, cruisers and auxiliaries from the smallest to the largest.

H. S. M. Series (Fageol Type)
Bore 4¼" Stroke 5½"
Four Cylinders, 50-70 H.P., 1275 lbs.
Six Cylinders, 75-100 H.P., 1525 lbs.

LM Series (Liberty Type)
Bore 5" Stroke 7"
Four Cylinders, 125 H.P., 1175 lbs.
Six Cylinders, 200 H.P., 1400 lbs.

Write for complete details

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Factory: Berkeley, Calif.
N. Y. Distributor: Wilbur H. Young, 522 Fifth Ave., New York.
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The famous Consolidated Play Boat, a high speed 34 ft. fishing cruiser, powered with the 200 H.P. Hall-Scott LM-6.

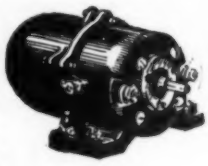
And the equally famous Belle Isle Bearcat, standard power equipment being either the LM-4 or LM-6 Hall-Scott. The two most popular standardized boats in Florida waters.

Caleb Bragg
in
Baby Bootlegger

ALREADY famous as a holder of World's records in automobile racing, Caleb Bragg again forged to the front when he brought Baby Bootlegger in second at the Golf Cup Race.

Like the automobiles which he has driven, Baby Bootlegger was also equipped with a Weston Model 354 Ammeter. This gives instant indication in case battery fails either to charge or discharge.

In addition to the Weston Ammeter, the Weston Speed Indicator shown at the left, is unexcelled for dependable speed measurements for either Pleasure Craft or Merchant Marine. It gives exact knowledge of how the engine is performing and in connection with a properly adjusted voltmeter tells speed instantly in "Knots" or "R.P.M." It is invaluable in making horsepower tests upon motors or engine. Three years' time test guarantee its reliability. For full details, write for Bulletin 3004.



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Electrical Indicating Instrument Authorities Since 1888
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It Pumps While You Are Away
THREE SIZES
$5.00 $10.00 $15.00
Utility Folding Seat
Price $5.00
E. G. Long Company
Room 1361 50 Church St., New York City

Beneath the Southern Cross

(*Continued from page 25*)

coral heads, over which the sea was breaking. But there was no alternative, and with Tom stationed on the bow to con us through, we somehow missed the rocks and slipped in behind the reef to a quiet anchorage, just as the sun tinged to pink the top of the great plateau above us. A man standing on the beach was wildly waving his arms and shouting, but the noise of the surf on the reef prevented our hearing what he said. Later it developed he was shouting in Spanish so we could not have understood him very well under any circumstances.

A quiet anchorage and supper. A boat came out to us and we learned there were only ten people living on the island. The buildings were the former plant of a guano company which mined bat guano in the great caves, but all that was gone now, and only the lighthouse keeper and his family and relatives remained.

A full moon and a beautiful night. Two little boys came alongside in a rowboat and we played the Victor for them while the surf on the reef beat a never ending accompaniment.

We had planned to leave for Porto Rico at daylight, but in the wee small hours it commenced to rain and blow with great intensity, and by morning the reef was an angry fringe of white, and offshore the big seas were mounting higher each minute. We decided to go exploring.

Playa Pajaro as the settlement was known, consisted of one dwelling and a broken down storehouse. A woman, with her husband and son lived in the mouth of a huge cave halfway up the cliff, and the husband kindly consented to show us through the caverns which stretched under the plateau in all directions. Through great vaulted rooms we wandered, the lanterns casting weird reflections on the stalactites and stalagmites which reached up and hung down in every direction. Finally we arrived at a small chamber deep in the mountain—the home of the bats. The floor of the chamber was deep in guano, a dark brown muddy substance, and in the center was a hole some forty feet in depth where the German company who had carried on the mining, had been excavating. The guano in this room we were told was sixty feet deep, the accumulation of centuries of bats.

We were glad to regain the open air. The lighthouse a few miles distant invited a visit, so we started out for it. Arrived at the end of the path we had been traversing, we faced the wall of a cliff, up which ran a bucket railway. This was used for hoisting supplies to the light on the plateau above. There was a narrow path in the rocks, however, up which we clambered and shortly reached the summit. The top of the island appeared to be a great plateau with one small ridge or hill to the northwest. There we were told were wild goats, cattle and boar, which we could shoot if we wished. As the plateau was covered with wicked looking cactus, the idea did not greatly appeal at the time.

The lighthouse keeper was very hospitable and gave us some eggs for our larder. The lighthouse was spic and span, and we climbed to the top of it, examining the great lenses and the marvelous view. On clear days the mountains of Porto Rico could be seen from there.

The high wind continued for two days more. We beguiled the time by swimming and climbing the cliffs. The rocks were the home of colonies of boobies, strange sea birds, and we used to wander amongst the nests, watching the antics of the young ones. Both young and old were quite tame and could be picked up and fondled. Far, far below Nepenthe II, like some white gull, swung at her anchorage. Outside, the surf, a long line of white, creamed on the reef, and over all, brooded the solitude and romance of a true desert island. We thanked our stars that Providence had whipped the blue Caribbean into a gale that kept us there; otherwise we should never have seen this lonely and beautiful island.

We were away at last from Mona, and headed eastward once more. Our plans had been to go the south coast of Porto Rico to get in the lee of the heavy northeast trades, but halfway across, the wind jumped out a gale from the southeast, head on. So rough did it become, and so badly did we pitch and roll that we changed out course and headed for the northwest point of the island which now showed plainly before us. Through heavy seas we made the harbor of Aguadilla at dusk. The custom officers became rather excited as our papers did not call for Aguadilla. As they spoke in Spanish we understood them only imperfectly, but finally convinced them that ours was a forced landing. We assured them we had no intention of going ashore and from what we could see of the town from the harbor, banished desire of landing from our minds.

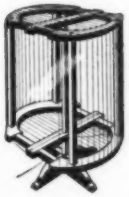
Evidently however, they did not trust us, for an armed guard was stationed in a rowboat nearby for several hours, to prevent. no doubt, our landing any contraband.

We were away before daylight and along the north coast of

(*Continued on page 74*)

Advertising Index will be found on page 138.

Fun for Every Season
with a Radiola Super-Heterodyne



Extra, Radiola Loop Type AG-814—to get record distances with the "Super-Het"—$12

Radiola Super-Heterodyne, with 6 Radiotrons UV-199 and Radiola Loudspeaker; with compartments to hold the batteries. Entirely complete except batteries . $269

There are many Radiolas at many prices. Send for the free booklet that describes them all.

At home now—or off in the hunting lodge. Next summer—out at camp, or on your motor boat. Fun *everywhere* with a "Super-Het." It needs no antenna—no wires, and you can take it from place to place. It gets distance—makes records for quality of reception, and dependability. Once you've found a station and marked it on the dials, you can take the set anywhere, and just turn to the same two spots to tune in. Make it a *real* Christmas with a Radiola Super-Heterodyne—for four seasons a year of fun!

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NIAGARA "SPECIAL"

"Great!"

THAT is the answer to "How does she run now Capt'n with the Niagara Special?"

"I'll tell you this Niagara Special has that old engine of mine beat all hollow. You can depend on this engine. It is always ready to take you and bring you back, and you don't have to worry about starting or keeping up the pace, hour after hour.

"Talk about flexibility and freedom from vibration. Well sir, I've never come across an engine of its size and power that equals it for trolling, and for consistent, dependable fast work. And I haven't felt a bit of vibration when she is running. That Niagara Special is great."

It will pay you to get the facts on the Niagara Special 9–15 H. P., a four cylinder, four cycle engine for launches, small cruisers and open boats 16′ to 32′ in length.

Niagara Marine Engines

For All Types of Boats

D-6: 60-120 H. P. MEDIUM
D-4: 40- 70 H. P. DUTY
E-4: 25- 35 H. P. 600-1000
E-2: 12- 14 H. P. R. P. M.

Economy—Simplicity—Quality

Write today for catalog and state power you are interested in.

Niagara Motors Corp.

BOX 300

DUNKIRK, NEW YORK

Beneath the Southern Cross

(*Continued from page 72*)

the island in a fairly calm sea, although a heavy swell was running. As we neared San Juan the sea commenced to pick up again, and when the famous Morro loomed on the horizon, we were pitching and rolling dangerously. Porto Rico from the sea presented a vista of gently rolling mountains and a sense of cultivation; not the savage wild beauty of Hispaniola.

From the signal mast on El Morro we could see the black balls announcing our arrival to the eager Porto Ricans, and with quarantine flag flying, we turned and rushed through the narrow harbor entrance before some tremendous following seas. With the great walls of the castle towering above us, we nearly broached, but we straightened her out and soon gained the quiet waters of the anchorage, crowded with shipping.

In due course we passed the doctor and customs, the latter rather inconsiderately sealing up the few cases of beer we had aft, but we did not mind. Thinking a change might do us good, we moved our bags up to the beautiful Condado Vanderbilt Hotel, settled ourselves in some piping hot baths, and proceeded to see Porto Rico.

San Juan reminded me somewhat of Havana, but more Americanized. We were astonished that so few people spoke English. Without some knowledge of Spanish it is difficult to get along in Porto Rico. The Morro was fascinating—greatly resembling that of Havana, and built along the same lines. The streets were clean, the shops good, though expensive. We found prices in San Juan higher than at home. Even a well known make of Porto Rican cigar sold for a cent more in the city of its birth, than in the U. S. A.

Surntance, the residential district, contained some lovely homes and in one of them our omnipresent West India Oil friends entertained us. Ponce de Leon founded the city and resided there for some time. Great walls encircle it on all sides and the remains of the outlying forts still stand. It is a city of white in a setting of Caribbean blue.

One day we motored over to Ponce. The way led over the famous military road built by the Spaniards in the early days of their occupation of the Rich Port. It is a marvel of engineering ability, this *Camino Real*, and is probably in as good condition today as when it was first built.

Porto Rico is mountainous, but its mountains are *gentler*, more cultivated than Hispaniola. It has the mountains of New England. The mountains of Haiti are those of the American Rockies, savage, spectacular! Porto Rico is smiling—lovely; Haiti wildly beautiful with vast peaks and chasms.

Charming vales and hills presented themselves to our view as we sped onward toward Ponce. Lunched at Coamo Springs, a pretty place in the mountains where there are thermal baths guaranteed to cure all rheumatic ills. Then on to Ponce in plenty of time for supper.

Ponce seemed more foreign than San Juan. The *Parque de Bombas*, or firehouse, attracted our attention, a fearful and wonderful thing. The firemen showed us all through the building with the utmost pride. There was a large plaza where we sat in the evening and watched the parade—mostly dark-eyed senoritas who were real beauties. We were unanimous in declaring the ladies of Ponce the loveliest in the Antilles, until we saw Caracas in Venezuela, and there one of those persons who is always taking the joy out of life, told us that in San José, Costa Rica, the Venus di Milo was considered a monstrosity. But we didn't have time to go everywhere. The port of Ponce was rather dirty and uninviting and we did not tarry long.

Our way back to San Juan lay for a while beside the Caribbean. Cane fields stretched on all sides, and we passed through many charming hamlets, where ox carts rumbled slowly along on their way to and from the mills. In the mountains, some of the slopes looked as if they were covered with snow. They were tobacco fields covered with cheese cloth, to protect them from the sun. The road wound in and out among the beautiful hills, and many times we stopped for a better look at some entrancing view or verdant valley. San Juan seemed somewhat of a let-down after the lovely country we had been traversing, but we were glad to see the little Nepenthe II lying peacefully alongside the quay, though somewhat astonished to behold Tom seated on the deck with several ladies of an octaroon shade, to whom he was expounding with a bottle in one hand and playing the phonograph with the other.

In a fairly calm sea we at last departed from San Juan, headed for the Virgins. Between the northeast end of Porto Rico and those islands, however, the sea picked up once more, and so rough did it become, that it was with difficulty that we made headway. Discretion overcoming valor, we sought shelter in the harbor of the mountainous island of Culebra. Here we lay for three days, unable to reach St. Thomas, which only eighteen miles away, loomed high on the horizon. We tried it twice, but so big were the seas, and so badly did we pound and roll that we were forced to give it up and return to our an-

(*Continued on page 84*)

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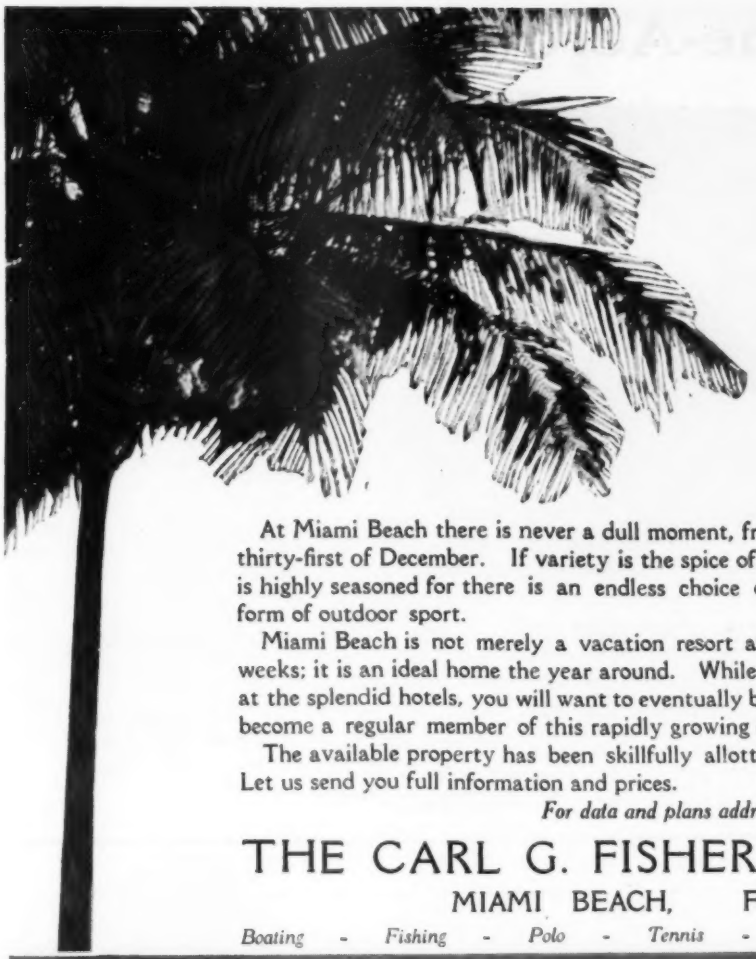


MIAMI BEACH

A Paradise for Lovers of Outdoor Life

At Miami Beach there is never a dull moment, from the first of January to the thirty-first of December. If variety is the spice of life, the living at Miami Beach is highly seasoned for there is an endless choice of recreation, including every form of outdoor sport.

Miami Beach is not merely a vacation resort at which to spend a few short weeks; it is an ideal home the year around. While you can enjoy it by stopping at the splendid hotels, you will want to eventually build a permanent residence and become a regular member of this rapidly growing community of beautiful homes.

The available property has been skillfully allotted, landscaped and restricted. Let us send you full information and prices.

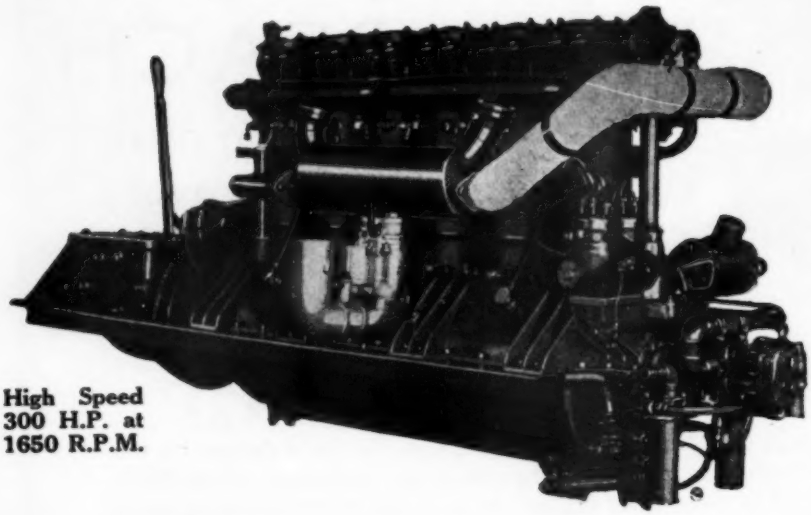
For data and plans address:

THE CARL G. FISHER PROPERTIES

MIAMI BEACH, FLORIDA

Boating - Fishing - Polo - Tennis - Golf - Bathing - Motoring

Detroit Marine-Aero (*Fiat Type*) 300 H.P.



High Speed
300 H.P. at
1650 R.P.M.

UNEXCELLED in quality of design and workmanship, and in perfect adaptability for marine service, whether in runabouts, racing craft or express cruisers.

Cylinders Protected Against Salt Water Corrosion and Rust

We have perfected a new process of bronze-tin plating the water-jackets so that the cylinders are unaffected by salt water corrosion or rust. This gives a durable and dependable cylinder that is fully guaranteed for service. Used exclusively on Detroit Marine-Aero 300 H. P. (Fiat type) and Gar Wood Liberty 450 H. P. Marine Engine.

If you are interested in owning a fast boat of any size, let us submit data and prices.

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The Belle Isle Bearcat at 40 miles an hour. An ideal Florida boat.

Belle Isle-Hacker Boats

IN either the DOLPHIN, a 24 ft. 30 mile per hour runabout, or the BEARCAT, a 26 ft. 40 mile per hour runabout, you will find an excellent playboat for Florida waters — your choice depending entirely upon the size and speed preferred.

Both models are salt water equipped, double planked and powered with marine motors suitable for continued use in salt water. Delivery guaranteed for opening of Florida season. Representatives with demonstrators at both Miami and Tampa.

Belle Isle Hacker Boat Sales Co.

Distributors of Belle Isle Bearcats and Hacker Dolphins.

6304 E. Jefferson Ave. :: Detroit, Mich.

Advertising Index will be found on page 136

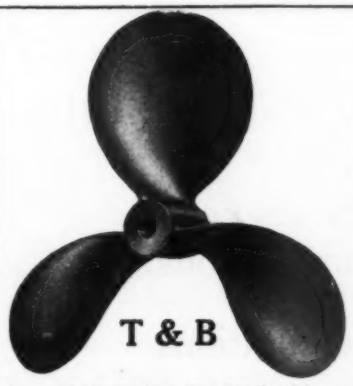
Seventy 36-Foot Cabin Picket Boats Built for the U. S. Coast Guard Service.

Complete standardized equipment furnished by

W. & J. TIEBOUT

118 Chambers St., N. Y. City

Established 1853 Incorporated 1892



B & B or T & B
Which shall it be?

Bryant & Berry Propellers are built in two types, T & B and B & B. In both wheels, unexcelled quality and workmanship are guaranteed.

If at all in doubt as to the type and size of propeller best adapted to your boat—let us have its specifications—we promise that you will be satisfied with the wheel that we recommend.

Our stock is complete—we can give immediate delivery.

Bryant & Berry Propeller Co.

Canada-Canadian Fairbanks Morse 1202 Lillibridge St., Detroit Mich.

New York Agents
E. T. WILLIS & CO.
85 Chambers St.

U. S. Pat. No. 1,405,684 Issued Feb. 7th, 1922
Canada Pat. No. 263,574 Issued Oct. 20th, 1923
Great Britain Pat. No. 200,538 Issued July 12, 1923

SAVE OVER 60%

Ships built according to our patented ship hull form of 17000 tons displ., 2400 I.H.P. has speed 12.3 knots per hr. Would travel one and one half times around the world on same fuel expenditure as prior form of modern late type ship would require for a return trip from New York to Liverpool, England. Write for plans to

A. F. HAMACEK MARINE CORPORATION
4645 BROADWAY - - CHICAGO, ILL.

FINISHED CRANK SHAFTS

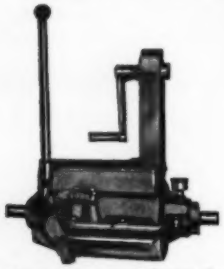
P. H. Gill & Sons Forge and Machine Works, Brooklyn, N. Y.

We are furnishing them to some of the leading marine engine builders. Carbon and Alloy Steel, Heat Treated to your own specifications. We grind all Pins and Bearings. Forged, machined, and finished complete in our own plant. Let us quote you.

SYRACUSE REVERSE GEARS

The Improved Gear with a Rear Starter

Can You Boast a Successful Boating Season?



We make a special gear for 100 H.P. Hall Scott and similar high speed motors. We also make a special gear for International and Roberts Marine Motors.

You can if the motor in your boat is equipped with a SYRACUSE REVERSE GEAR. These features assure you of better service from your motor:

— Enclosed in oil tight case
— Rear starter integral
— Oil tight case for rear starter
— Thrust bearing
— Oil tight case for thrust bearing

The SYRACUSE is carried on its own bearings, insuring perfect alignment. Mechanism works in bath of oil. No exposed revolving parts to throw oil and soil your clothing.

A suitable gear for all types of installation with marine and converted motors.

SYRACUSE GEAR COMPANY, Inc.
101 Grape St. Syracuse, N. Y.

ZUNDEL

MARINE HARDWARE

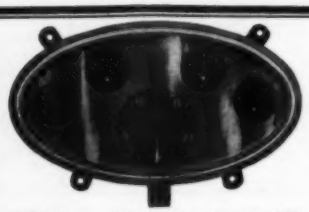
Oberdorfer Pump, ¾ in. size, $10.60.

We carry a complete line of Marine Hardware and Supplies—Lighting fixtures, Electric Horns, Searchlights, Magnetos, Generators, Universal Joints, Paints, Varnish—in fact everything for Motor Boats. *Get our prices and catalog.*

HALF-MILE-RAY SEARCH-LIGHTS.

R. W. ZUNDEL COMPANY, INC. 1 BLOCK FROM SO. FERRY
47 Whitehall St.—Phone Bowling Green 9157—New York, N. Y.

BOAT SUPPLIES



All Under One Glass

Indirectly Illuminated

THE new Elgin Unit Control Board, enclosing all essential instruments under one glass, is now available to every motor-boat owner. Contains an Elgin Chronometric Tachometer, Ammeter, Oil Pressure Gauge, MotorTemperature Gauge, Air Gauge for Gasoline line, and a 6-volt lamp.

Write for Complete Specifications

Elgin National Watch Company Tachometer Division
86 East Randolph Street, Chicago, U.S.A.

J. E. CALDWELL & CO.

Jewelry, Silver, Watches, Stationery

Pieces For Competitions and Presentations

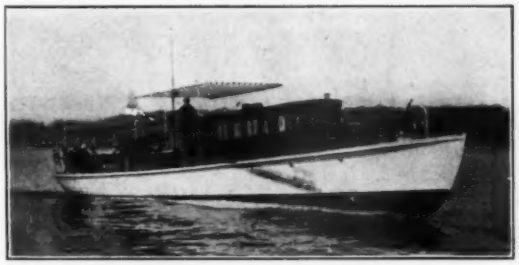
Prize cups, vases, bowls, tankards, and trophies in precious metals, silverplate, copper and bronze.

Medals, Pins and Shields for individual awards.

Special Pieces, Medals and Pins Designed to Meet Any Requirements.

PHILADELPHIA

Advertising Index will be found on page 138.



FOR SALE

The Seagoing Cruiser "CLOVER"

Ready for Immediate Delivery

Length	**80′ 6″**
Beam	**10′ 6″**
Draft	**3′ 6″**

Two double staterooms, two toilets, deck saloon. Galley, pantry, crew's quarters and storeroom. Double planked hull. Mahogany joinerwork. Bronze fittings. 200 H.P. speedway motor. Speed 20 miles per hour. Will demonstrate to authentic buyers. For further particulars and price write:

PURDY BOAT COMPANY Trenton, Michigan Designers and Builders

Cap'n Allswell says:

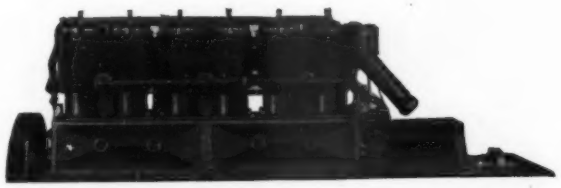
"Rum runnin's gettin' riskier every day."

"Now that Uncle Sam is equippin' his Coast Guard boats with Columbian's, rum runnin' is what the insurance companies call a 'hazardous occupation'." (Write for propeller information.)

The Columbian Bronze Corporation, 204 N. Main St., Freeport, L. I., N. Y.
New York City Sales: 44 Third Avenue

COLUMBIAN *Bronze* PROPELLERS

YACHTS — CRUISERS — HOUSE BOATS



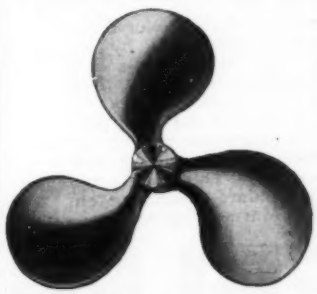
Experience Teaches—Hence the reason that once an owner of a New York Yacht Launch and Engine Craft always an owner. Many years' experience in high class Yacht Design and Construction are at your service.

20th CENTURY MOTORS

400 to 500 R. P. M. Heavy Duty Type Four cycle. Bore 6½″, Stroke 8″

4 cyl. 50-60 B. H. P.
6 cyl. 75-100 B. H. P.

NEW YORK YACHT LAUNCH & ENGINE CO., Morris Heights, New York City



HARTHAN
TRUE-SCREW
PROPELLERS

For 21 Years Have Been Efficient, Dependable, Durable

Our Service Department will be glad to help you with any or all of your propeller problems. Use the coupon

McFARLAND FOUNDRY & MACHINE CO.
TRENTON, N. J.

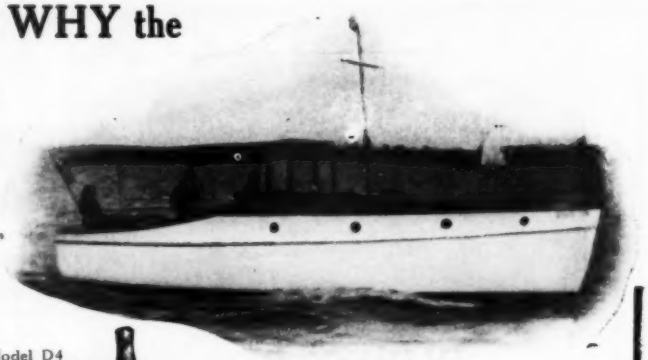
Water line length.....
Beam .....
Construction (light, heavy, med.)
.....
Make of engine.....
H. P.....R.P.M.....
Present speed .....
Present wheel .....
Present R.P.M. .....
Name .....
Address .....
"B"

AGENTS: BOSTON—Toppan Boat & Engine Co., 125 Riverside Ave., Medford, Mass. NEW YORK—Bowler Holmes & Hecker Co., 259 Greenwich St. PHILADELPHIA—Marine Equipment & Supply Co., 116 Walnut St. NEW ORLEANS—Eclipse Engineering Co., 333 Chartres St. WILMINGTON, Cal.—Wilmington Boat Works. SEATTLE, Wash.—Chandler Hudson Co. Motor Boat Garage Co., 36 Linden Ave., Winnepeg, Manitoba.

EVENTUALLY you'll know WHY the

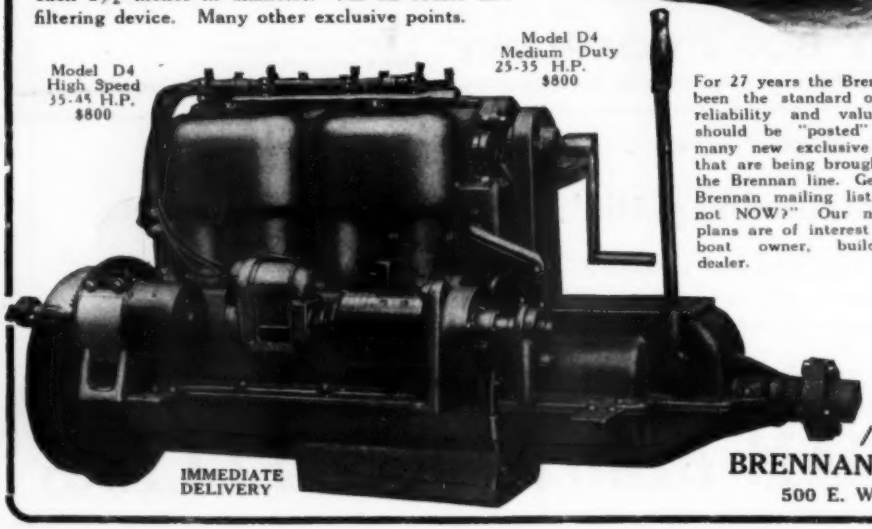
Brennan Motors are the "flower" of the Marine field

A broad power range 17-100 h.p.—the most complete engine ever offered. No extras required. All parts might be called "oversized" because of the extremely rugged construction—for instance the crankshaft and the crank pin bearings are each 2½ inches in diameter. An oil cooler and filtering device. Many other exclusive points.



Model D4 High Speed 35-45 H.P. $800

Model D4 Medium Duty 25-35 H.P. $800



IMMEDIATE DELIVERY

For 27 years the Brennan has been the standard of power, reliability and value. You should be "posted" on the many new exclusive features that are being brought out in the Brennan line. Get on the Brennan mailing list. "Why not NOW?" Our new sales plans are of interest to every boat owner, builder and dealer.

"Emita"— 30' x 9' Cruiser owned by Frank V. Polk of New York City. Equipped with a Brennan Model D-4 turning at 750 r.p.m. Speed 10 miles an hour.

COUPON

Send me Your new Sales Plan. Requirements are:

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.....

Name.....

Address.....

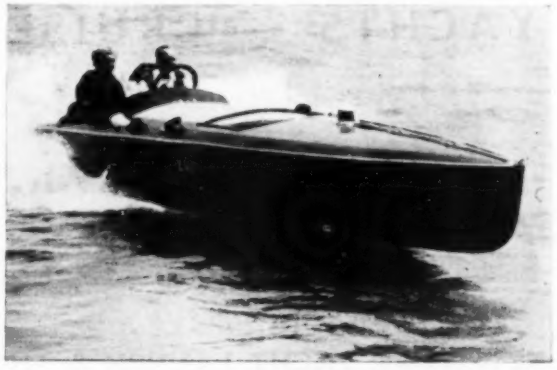
BRENNAN MOTOR MFG. CO.
500 E. Water St., Syracuse, N. Y.

GET THIS ELECTRIC SIREN

The Recognized Marine Call—Commands Instant Attention.
Every Boat should have a loud, reliable, electric siren.
Made in 6, 12, 18, 24, 32, 110, 220 or 250 volts.
Operates either A.C. or D.C. Copper, Brass or Nickel on Copper or Brass Finish.

PRICE ONLY $40.00

Federal Electric Company
8700 S. State St., Chicago (MB-12)



Exact Carburetion for Junior Gold Cup Winner

The Lady Helen, winner of the Junior Gold Cup Race at Detroit, introduced by an impressive Victory, the New Scripps F-6 Marine Engine equipped with the New Schebler Model "S" Carburetor.
Exact Carburetion brings out the peak performance possibilities of fine engines, as the New Schebler Model "S" Carburetor has demonstrated repeatedly. This highly refined carburetor is standard equipment on the New Scripps F-6 Marine Engine.

SCHEBLER
The World's Finest **CARBURETORS**
THE WHEELER-SCHEBLER CARBURETOR CO., INDIANAPOLIS, U.S.A.

Advertising Index will be found on page 138.

THE NAUTILUS THE LINCOLN THE FLAMINGO

4 polo fields
4 golf courses
20 tennis courts
Motor boating
Bathing
Fishing
Roller skating
Ice skating

A Real Port to Head for
MIAMI BEACH
FLORIDA

Motor Boat regatta March 20 and 21, 1925

AMERICA'S WINTER PLAYGROUND....of course you're coming again this winter. Cruise jade green seas.....slip into a lovely quiet anchorage!.....Ashore! Throngs sunning themselves on white beaches.....dancing out-doors in charming gardens....miles of dustless macadam roadways. Congenial companions. Spectacular championship events throughout the season. Irreproachable hotel accommodations. Furnished bungalows with hotel service.

The NAUTILUS opens January 10. The FLAMINGO opens December 30. The LINCOLN now open. Make your reservations now.

Palm Beach Mid-Winter Regatta

PALM BEACH YACHT CLUB

February 23 and 24, 1925

Royal Poinciana Trophy for 151-class Hydroplanes
Bradley Gold Challenge Trophy for Displacement Boats
Other Ocean and Lake Races for Cruisers, Runabouts and Sea-skiffs

Sanctioned by the M. V. P. B. A. and the A. P. B. A.

Real Racing Over Ideal Courses

Further information from

Com. Alfred H. Wagg
West Palm Beach, Fla.

Gerald T. White
The Rudder
9 Murray Street, New York

H. W. Dobbins, Jr.
Red Bank, N. J.

St. Petersburg
"The Sunshine City"

For a big time this winter, lay your course for the sunniest spot in Florida — that's St. Petersburg on the West Coast where sunshine failures average only 5 days a year.

Just made for the world's good fellows who love a boat. It's on a big hook sticking out into the Gulf — and the St. Petersburg Yacht Club say come on and let them show you the fun on the big Bay that runs back in for thirty miles and on the sparkling waters outside.

Game fish? — you'd think there was a convention of them — more lively kinds than you ever saw in one place. Famous bathing beaches too.

And every sport you want on land — fine golf courses, great motoring and all outdoor games. Famous band concerts daily in Williams Park. Festival of the States — the big carnival week of brilliant pageantry and fun.

Many fine new hotels, up-to-the-minute in convenience and comforts — and hospitable accommodations of all kinds at rates that will please you.

Let us help you to plan in time — just ask us about Florida's Harbors, coast line, charts, etc., or any other information you desire. Better write today.

Address — M. O. Dillman, Chamber of Commerce,
St. Petersburg, Florida

The INTERNATIONAL THIRTY TWO

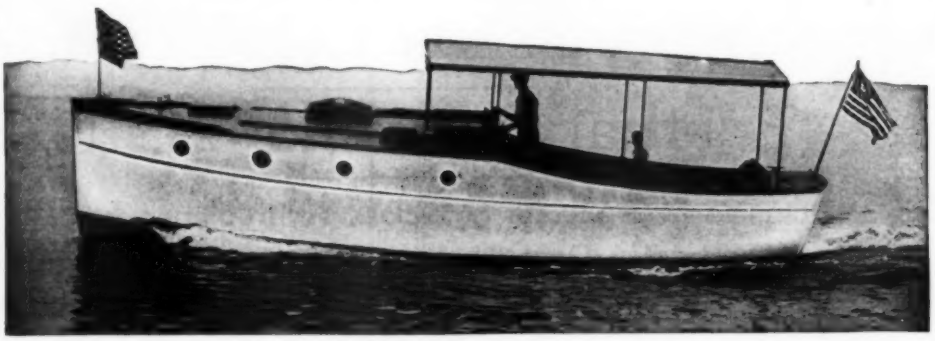
The First "Everybody's Motor Boat"

Raised Deck Cruiser Complete, Ready for Cruise—

—

Delivery from Stock

—

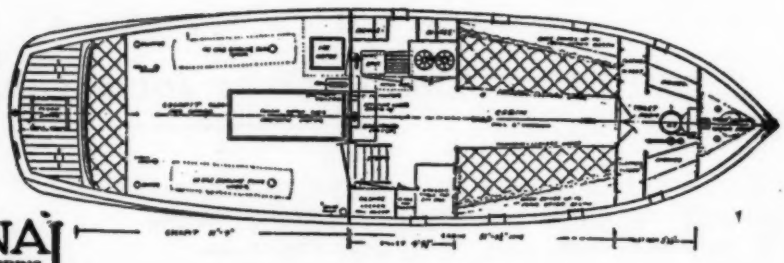


PRICES

$3950 with Kermath 20 H. P. Engine, speed 10 miles per hour.

$4350 with Kermath 35-50 H. P. Engine, speed 12 miles per hour.

The Best Boat Value—
By a Very Wide Margin



Arrangement Plan

INTERNATIONAL
SHIPBUILDING AND MARINE ENGINEERING CORPORATION
NYACK, NEW YORK, U.S.A.

Advertising Index will be found on page 138.

JUST THINK!

You Can Get a Brand New Engine Immediately on the Easy Payment Plan

MANUFACTURERS OF NJM MOTORS

Here is an opportunity for you to repower your boat with the popular N. J. M. Motor on a very small down payment and can pay the balance in small monthly payments.

The best part of all is that the N. J. M. will help pay for itself in savings of gasoline and oil over your present engine.

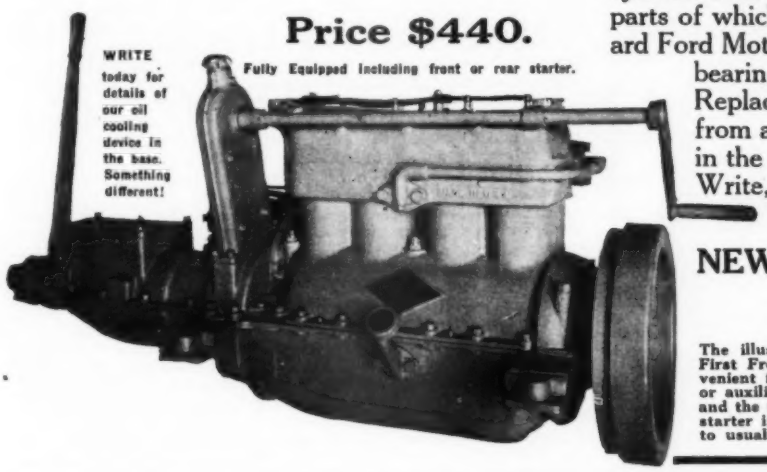
The N. J. M. is a first class and powerful four-cylinder four cycle marine engine, the essential parts of which are interchangeable with standard Ford Motor Parts. It has extra large main bearings and an enclosed reverse gear. Replacement and service can be had from any Ford service station anywhere in the world.

Write, phone or wire for all particulars about this wonderful engine.

Price $440.

Fully Equipped including front or rear starter.

WRITE today for details of our oil cooling device in the base. Something different!



NEW JERSEY MOTORS, INC.
Keyport, New Jersey
Cable Address: "Nujermo" Keyport

The illustration shows the N. J. M. Motor with Safety First Front Hand Starter. A very important and convenient feature when using the motor in a cabin cruiser or auxiliary sloop, where flywheel is half under the floor and the rear end of engine is under companionway. This starter is furnished without extra charge and in addition to usual rear starter.

"Little Bear"

Owner, John R. Robinson.

Winner of International Star Class

Finished With

SMITH'S AQUATITE VARNISH
SMITH'S YACHT WHITE ENAMEL
SMITH'S YACHT BOTTOM GREEN

"As to my opinion of your products, it is enough to say that I shall use them again next season. I am particularly pleased with the Yacht Bottom Green and will not have to scrape it off next season, but merely sand it off and give it another coat."

Signed John R. Robinson.

EDWARD SMITH & CO.

West Ave., 6th & 7th Sts., Long Island City, N. Y.

38 Foot "STANDARDETTE"
$7000

THE ideal craft for your cruise to Florida. Big enough for living aboard all winter and cruising about as you please. Sleeps six, with all the comforts of a houseboat.

The largest and finest boat that can be produced for the money because it is thoroughly standardized in design, construction and equipment.

———Speed 11 miles with Kermath 35———
Electric starting and lighting. Completely equipped and ready for extended cruising.

Come up to our plant and inspect the Standardette. Write for specifications.

T. A. KYLE CO., INC

East on Fordham St., City Island, New York
Telephone: City Island 1418

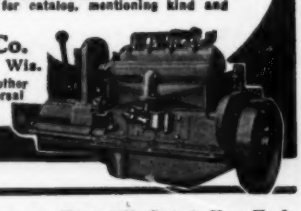
Excellent Location for Winter Storage

Universal MOTOR CO.

9-12 H.P. 4-Cylinder Four Cycle
MARINE MOTOR

Gritty, smooth, four-cylinder power—with sparkle and pep to its work! Truly, Universal adds MUCH to the sport of boating. New 1924 model embodies eight refinements which makes it, more than ever, "world's standard for boats under 30 feet." Eight variations of assembly to choose from. Send for catalog, mentioning kind and size of boat you are figuring on.

Universal Motor Co.
40 Ceape St., Oshkosh, Wis.
Not connected with any other firm using the name Universal



ENJOY YOUR SPORT
in MIDWINTER at

MIAMI

The Land of Palms and Sunshine
where every month is June

Whatever your Sport - - - it's here

MOTORBOATING or yachting on wide reaches of emerald and turquoise hued water with a palm fringed shore—

FISHING—tarpon, sail fish, barracuda, king fish and scores of other gamey varieties in Biscayne Bay, in the Gulf Stream, or among the Florida Keys—

GOLF—eight sporty courses, in tropical settings, and every day ideal—

HORSE RACING—51 days at new million dollar track of Miami Jockey Club, with nation's speediest thoroughbreds—

POLO, four fields with star players and enlarged schedule of contests—

MOTORING, 700 miles of smooth highways through enchanting tropical scenes—

SURFBATHING, in water of 72° on a 15 mile ocean beach—

In addition—Trapshooting, Jai Alai (speedy Spanish game), dog racing, tennis, roque, bowling on the green, horseback riding, swimming, baseball, and every other summertime sport.

Dancing—afternoon and evening—in a bower of coconut palms, on spacious verandas, in ball rooms, in Spanish patios, in extensive Oriental pavilions, or at some gay casino—wonderful orchestras.

ARTHUR PRYOR'S FAMOUS BAND
Two free concerts daily, in
Royal Palm Park from December to April.

115 hotels, 530 apartment houses, 5000 furnished cottages and bungalows.

IT'S NEVER DULL IN MIAMI
Midwinter regatta on Biscayne Bay March 20–24. Special speed features added this season will produce new thrills.

Season opened in November

For handsome illustrated booklet address

CHAMBER OF COMMERCE
Miami, Florida.

WHERE **IT'S JUNE** TIME
You'll be delighted with the clime

Beneath the Southern Cross

(*Continued on page* 74)

chorage. Here Jack and Billy R. whiled away the time by sleeping, while Billy D. and myself ranged round the harbor in the little launch, visiting the village of San Isledefonso.

Our Zenith radio worked beautifully here and at nights we would gather in the cabin to hear the latest news from Newark, Schenectady, St. Louis, and Kansas City, all of which stations came in strongly.

But there lay St. Thomas, almost within hailing distance it seemed, so we started for it, make or break. It was nearly break. It was one of the roughest runs of our trip. We pounded constantly, great resounding cracks that I thought were going to break the boat in two. We took green water from stem to stern and smashed everything in the front cabin it was possible to smash. A terror of a trip, though it lasted but two hours.

St. Thomas from the sea was beautiful. White walled houses with red tiled roofs, flanked on three sides by mountains rising from a wonderful harbor, made it seem like a toy town from a story book. But the sights of St. Thomas are few. You can see Charlotte-Amalia in a couple of hours. There is the old Danish fort of Seventeenth Century origin, its red walls dreaming in the tropical sun of the commerce of other days, and there are Blackbeard's and Bluebeard's castles, small stone towers which never housed the gentlemen they were named for, but which breathe an air of romance just the same. The Virgins are slipping backwards. The wonderful natural habor of St. Thomas used to be thronged with shipping from every corner of the world. Before the war, we were told, the Hamburg-America Line had as many as five ships a week in there. The company maintained at their own expense, a wonderful residency, with servants, for their agent. At the outbreak of war, he returned to Germany with a fortune, largely invested in company stock. With the collapse of the Hamburg-America Line, his fortune went also, and he is now penniless.

There was one thing for which we will always remember Charlotte-Amalia. Morning and evening, a band played the Star Spangled Banner, and everyone, no matter where they were at the time, if within hearing distance, snapped to attention. It was a stirring sight.

Needless to say we bought bay rum, and more bay rum. As we were headed for foreign shores we were allowed to buy the old brand. If bound homeward, we would have had to take medicated. We shaved with it, we used it on our hair, we almost bathed in it; we did everything but drink it.

The cruise ship Orca came in, and we conceived the brilliant idea of calling on the captain. So grabbing a returning launch, we went out to the ship, presented our credentials, and were cordially received.

The master of the big liner seemed highly amused and interested in our trip. Over an excellent Scotch and Soda we discussed ships, and he gave us some pointers on the islands we were still to encounter. When we told him we only drew three feet of water, he sadly shook his head. "I see that all adventurers are not yet dead," he remarked, "but just the same, the best o' luck, and if there's anything I can ever do, just say the word!"

When we had thoroughly visited every nook and cranny of Charlotte-Amalia, we set sail for St. Croix, the sister island to the south. The captain of the steamer Orca had told us that the trades were the heaviest that season that he had seen for years, and we were ready to believe him. The crossing to St. Croix was a nightmare. We all wore life preservers, and Jack made a little raft out of two of them to which he tied a bottle of water and some biscuits. We also strapped on our big hunting knives, in case we went over and had to fight sharks. I never expected Nepenthe II to reach St. Croix, but somehow she did. We had been heading for the port of Christiansted, but it meant a head sea, so we turned and ran before it for Fredrjksted on the western coast which we reached in the early afternoon, exhausted, but relieved.

We had dinner ashore and on first glance fell in love with this charming isle of saccharine.

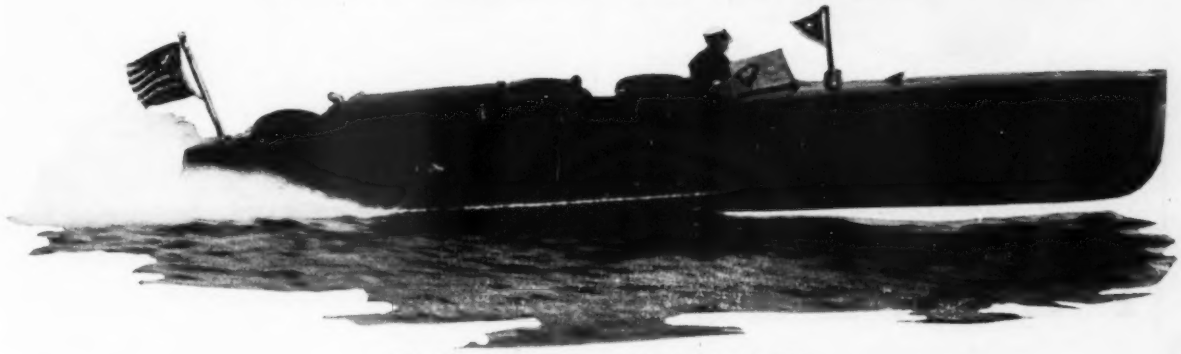
(*To be continued*)

In January MoToR BoatinG *the interesting cruise of Nepenthe II will be continued from St. Croix, which they have now reached in their adventurous journey through the Caribbean Sea to St. Kitts and further interesting islands in the Windward group. This journey is being made in a 47-foot twin screw motor cruiser, powered with a pair of six-cylinder Scripps engines, and began at Atlantic City and will carry the crew through many interesting experiences, finally coming to an end at Trinidad in Venezuela, from which point the return journey to civilization was made by steamship. Be sure to follow this interesting cruise story each month as it appears in* MoToR BoatinG.

Advertising Index will be found on page 138.

Going to Florida?

Want Some Real Fun?



World's fastest practical runabout

If you really want a boat
with consistency *unparalleled,*
with reliability which compares with the highest grade motor car,
that is easier and safer to drive than an automobile,
that embodies the very latest developments discovered in racing,
that is primarily a gentleman's runabout of the highest grade but has never failed to win any race in its class,
that is guaranteed to develop a consistent speed of 50 miles an hour on a 50-mile trial,
that is powered with the famous Gar Wood Liberty 450 H.P. Marine Engine (1650 cu. in. displacement)
with speed, finish, appearance and performance that will be a continual source of pride and satisfaction —

Get Aboard a BABY GAR

One of the latest model Baby Gar Runabouts will be available for delivery in Florida January 1st. Investigate at once so you will have the full season's use of your new boat.

GAR WOOD, Inc.

409 Connecticut Ave. **Detroit, Mich.**

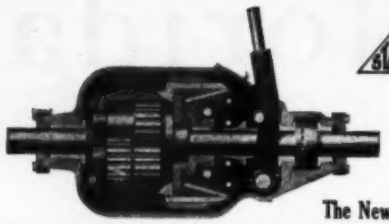
For Complete information and demonstration write, wire or telephone

Howard W. Lyon

725 East 135th Street **New York, N. Y.**

Melrose 1312 - 3

Be sure to see our exhibit at the Motor Boat Show.



The New Standard

The Standard Multi Cone Clutch is the most positive, yet most easily operated motor boat gear control on the market. The cones cannot buckle, warp or stretch, and the longer they are used, the better they get. A feature of the new clutch is its easy adjustment.

Write for 1924 catalogue and complete information.

STANDARD GEAR COMPANY

2819 BROOKLYN, DETROIT

PEERLESS

"The Engine that Makes Good"

PEERLESS Marine Motors have proved it isn't necessary to pay a fancy price to get a satisfactory power plant. 5 to 70 H.P. for medium and heavy duty, suited to all types of boats.

Special high speed light weight motors for fast runabouts, 125 and 200 H.P.

Write today for latest catalog, mentioning dimensions and details of your boat.

Peerless Marine Motor Corp.

2180 Niagara Street Buffalo, N. Y.

WOOLSEY'S COPPER PAINTS

and

Marine Paint Specialties

The World's Standards

C. A. WOOLSEY PAINT & COLOR CO.

EST. 1853 Jersey City, N. J.

Send for Booklet-"How to PAINT A BOAT," and color cards, also Pamphlet of Copper Oleate Fish Net Preservative-FREE.

The Dunphy "Sand-Dab" sells at a very attractive price consistent with quality. Write for illustrated catalog which contains specifications, prices and complete information. Yours upon request.

DUNPHY BOAT MFG. CO.

Dept. C-2
Eau Claire, Wis.

Dunphy "Sand-Dab"

Famous for speed, power and sturdiness. Length 18 feet, Four-cycle Universal Motor placed amidship. Makes 12 miles an hour easily. Auto steering wheel. Plenty of room for eight. Beaches anywhere — the propeller is protected. Runs in 10 inches of water. Made only by Dunphy, the company that has been "famous for boats for forty years."

DUNPHY "famous for boats for forty years!"

Preventing Deposits in the Water-Jacket

(*Continued from page* 70)

water from penetrating the coating. This preparation is very tough and elastic and will withstand a temperature far above that of any water-jacket.

To apply this, or any other paint to the water-jacket of a motor, plug all the openings but one and fill the jacket with the paint. In the last opening use a plug to which a tire valve has been attached and apply an air pressure of, say 50 pounds. The air pressure will force the paint into every minute crack and pit better than it can be done in any other way. Drain, and allow to set for 24 hours.

To remove rust and scale from iron piping treat as for the water-jacket. Brass piping is far superior to iron in every way and its use can be highly recommended.

A boat which continually operates in muddy water should be provided with a means of filtering the water or a circulating cooling system. Perhaps the two may be combined. Copper pipes may be placed outside along the keel and the water circulated through these much after the fashion of the condenser on the old vapor engines.

A strainer or filter tank of from 5 to 10 gallons capacity, depending upon the size of the engine, located below the water line with an outboard connection just below the actual water line, from which the engine pumps its cooling water will remove much of the mud; and by arranging the piping so that the water is returned to the tank, the motor temperature may be regulated without decreasing the volume of water. As but little cold water is admitted the amount of sediment collecting in the tank will not be large.

The pump suction extends about two-thirds the depth of the tank and the overflow from the jacket is piped through a tee with controlling valves so that any amount of water can be passed overboard and the remainder returned to the tank; only enough cold water being drawn to replace that pumped overboard. A motometer close to the engine will indicate the temperature. An auxiliary seacock through which the pump can draw water from directly overboard should be provided for emergency use.

Near the bottom of the tank is a copper screen cloth supporting a finer mesh wire gauze strainer. It should seldom be necessary to remove the screen for cleaning. Close the valve in the suction line from the tank and the overboard valve and open the auxiliary seacock. Start the engine and water will be forced through the tank in a reverse direction which will loosen up most of the sediment and carry it out through the outboard connection.

The straining and filtering device can be arranged in several ways. Either a round or flat tank can be used and the strainer can be horizontal or vertical, or it may be a large cylinder around the suction. The cylindrical strainer will be most easily installed in a tank not made especially for the purpose. Tap the hand hole plug for water piping size and fit a nipple extending 1 inch through the plug. Tap a larger piece of pipe to screw over the extension, allowing this pipe to extend to within 2 or 3 inches of the bottom of the tank. To the inside of the hand hole plug solder the screen cloth strainer, with its covering of wire gauze. Cheese cloth around the outside of the wire gauze will make the strainer very efficient but it will have to be renewed quite frequently. Have the strainer as large as will easily pass through the opening and extend it to just clear the bottom of the tank. Now that the water-jacket is protected from scale and rust and the cooling water filtered to remove the mud, there should be no more trouble from the water-jacket or piping filling up and an occasional flushing of the tank will be the only attention required. Regulate the valves for an efficient operating temperature of from 190 degrees to 200 degrees Fahrenheit overflow water temperature at the jacket outlet.

W. B. M., Newburgh, N. Y.

Diesel Engines for Hard Work

(*Continued from page* 37)

full Diesel is a smooth running engine without any engine noises or strains, and today, is the most popular and successful type of engine operating at the lowest posible fuel and lubricating cost. The lubrication in this engine is the pressure system. All bearings are kept under a pressure of 20 pounds, the oil draining to a sump, where it is in turn taken up by a pump and delivered to a storage tank on the engine through strainers and then by a second pump put under pressure on all bearings.

The cylinders have an individual clean feed of oil at two

(*Continued on page* 134)

Advertising Index will be found on page 138.

EXTRA RESERVE
STEARNS
MARINE ENGINE

Comparison proves the Stearns is Supreme in Marine Engine Value

YOU will agree, after a careful survey of marine engines, that the Stearns Extra Reserve Marine Engine represents the most in marine engine value. You will find that Stearns prices are about half that of other engines of equivalent power and ability. You will learn that these prices are the result of big production under the most efficient conditions in a factory that lacks nothing for the proper manufacture of good marine engines.

Stearns Extra Reserve Engines have the largest crankshaft and connecting rod bearings of any engines of their size and power, and have the most positive lubrication system designed.

Write today direct to us for further details, or see your local Stearns dealer.

STEARNS MOTOR MANUFACTURING CO., Ludington, Mich.

DISTRIBUTORS

New York, N. Y., Bowler, Holmes & Hecker Co., Inc., 259 Greenwich St.
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Washington, D. C., Monarch Marine Construction Co., Sixth & Water Sts.
Cleveland Ohio, Wm. F. Meier, 1433 West 77th St.
Jacksonville, Fla., Gibbs Gas Engine Co. of Florida
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West Palm Beach Fla., George D. Raymond
Seattle, Wash., H. G. McLaughlin Co., Inc., 904 Western Ave.

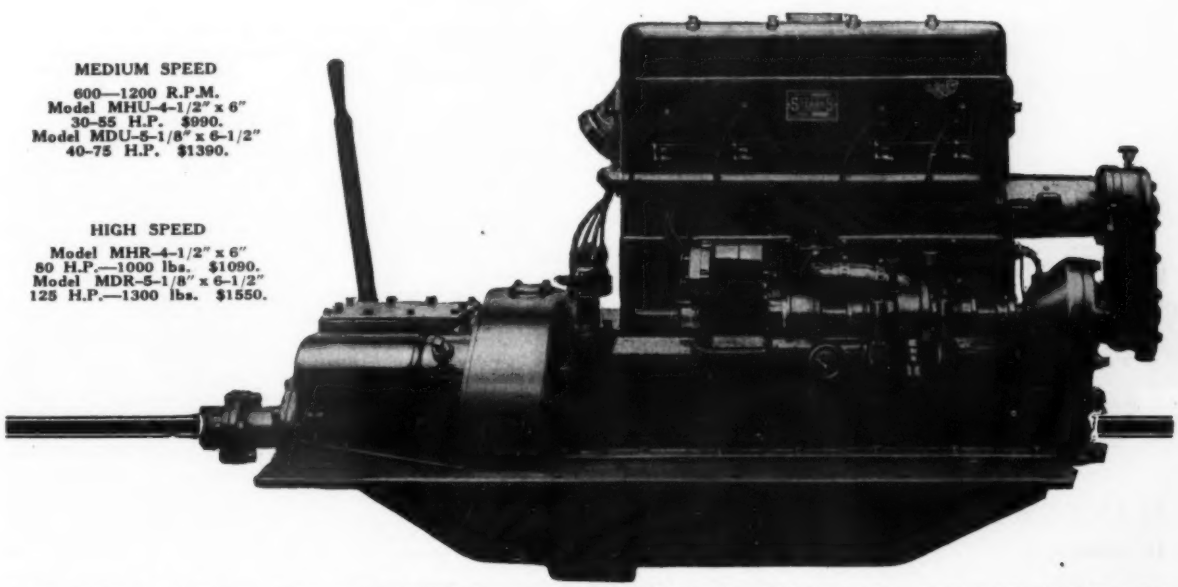
Agents and Dealers in all principal marine centers U. S. A. and foreign countries

MEDIUM SPEED

600—1200 R.P.M.
Model MHU–4–1/2" x 6"
30–55 H.P. $990.
Model MDU–5–1/8" x 6–1/2"
40–75 H.P. $1390.

HIGH SPEED

Model MHR–4–1/2" x 6"
80 H.P.—1000 lbs. $1090.
Model MDR–5–1/8" x 6–1/2"
125 H.P.—1300 lbs. $1550.



REVERSE MASTER GEAR

By Nature as well as by Name

ANNOUNCEMENT

By H. G. Burton

IT gives me great pleasure to announce that I have purchased the assets of the Master Reverse Gear Corporation of Lockport, New York, and have established the factory at Canastota, New York. Many readers of MoToR BoatinG, no doubt, are entirely familiar with this wonderful reverse gear. However, there are a large number who are not, as the former manufacturers were not in position to give the Master Gear the publicity it deserved. Nevertheless it has made a name for itself without any effort and is now used by *three of the best known engine manufacturers as standard equipment.* Each of these manufacturers will very enthusiastically inform you that the Master is the best made and simplest reverse gear on the market. It is especially noted for its material—the best money can buy—which means long life and Master boosters.

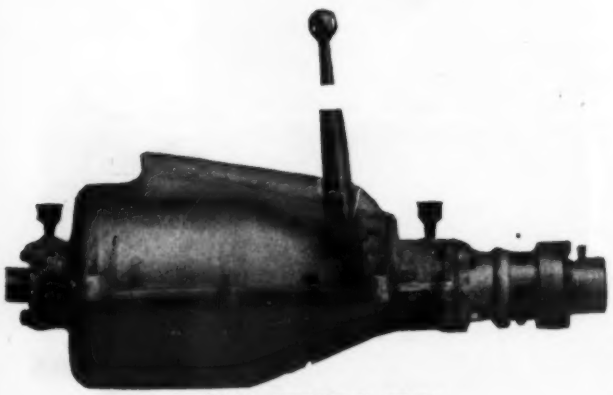
It was only after exhaustive effort that I was able to purchase this business. I had grown to know the Master Reverse Gear and appreciate its wonderful possibilities while I was associated with the C. N. Cady Company who use the Master as standard equipment on the Cadyford marine engine.

Mr. Frank E. Timian, the designer of the Master Gear, will be in direct charge of its manufacture, and assures a continuance of the same high quality of workmanship that has been responsible for its remarkable success.

We assure you that the new organization will always be in position to take care of your requirements. Our very liberal service, we are certain, will cement a lifetime friendship between buyer and seller. We are here to serve you and to that end we will bend every effort to attain our goal.

We would like very much to hear from our friends, and we earnestly suggest that you visit our exhibit at the Motor Boat Show in New York, January 2 to 10; space 39 mezzanine floor.

Very sincerely yours,
H. G. Burton.



BALL BEARING TYPE
Manufactured by
MASTER REVERSE GEAR CORP.
100 Spencer St. - - - Canastota, N. Y.

Huck Says: Percival Platnumb Takes to Yachting

(*Continued from page* 43)

week-ends, you could find them fitting her out. These boys, although they has all taken that celebrated cinch course in college what they calls Fine Arts III, it doesn't help them much in painting a boat. Part of these fellers they starts to work on the starboard side burning off the paint with a gasoline torch. They not only takes off the paint but in two or three places they gets careless-like and they burns pretty near through the plank and the paint it never hides them spots after that. The rest of the gang they uses paint remover on the port side. They does a good job all right but both parties they meets at the stern and the torch it sets off the paint remover and the whole works it pretty near burns up and they was hell to pay. Then they scrapes off the rails and they stains them with a mahogany stain what the local hardware dealer says it is swell stuff but later it runs down on the white and makes Nausea look as if she was bleeding to death. The engine they does nothing to at all. For the week before the launching it rained the whole entire time but they makes a lot of trips down in the street cars, as the automobile it was not then used as a moving van for boat supplies, and carries about a ton of blankets aboard what all gets wet and that never does get dry the whole season.

Then the day it come at last. All was ready. Percival and his friends they come down to the yacht yard early. Their celebration I regrets to say is not so proper-like as since they passes the Volstead Act and reforms everybody more or less. In fact they comes down with a good skinful apiece which they has been absorbing into their system from several small bottles. As I sees them that morning I thinks how too bad it is what college does to these boys. They is quite hilarious and by the time of the launching they is rendered immune from any of the dangers of the seas. Nausea she was mounted on a cradle at the head of a very long railway which it ran from the boat-house away out into the water. They all gets aboard. They was a feller, a squarehead, who held the line attached to Nausea, around a iron cleat. He slacks off a bit and she starts down the railway. The boys they all stands up and cheers and one of them he tries to bust his pint over the rail but just then the dumbell on the rope, he lets it slip off'n the cleat. Nausea, she jumps like a South American Chamois skin. Before her crew they has time to think, she hits the water going at about sixty miles an hour. The stern it goes clean under and the launching party they lands in a heap in the bottom of a cockpit full of water.

Just as all this happens the Provincetown steamer, she starts backing out from her winter moorings right next to them. Percival he comes up for air and he sees that they is about to be a collision if he doesn't do something sudden-like. So he grabs the steering wheel. It doesn't turn. The shaft it is frozen solid with rust. The mate of the steamer he yells at them to get the hell outer the way and Percival he gets so strong with terror he gives the wheel a awful twist and the shaft it breaks and the wheel it comes off in Percivals hands and Nausea she bumps into the steamer.

Well Chap this aint the half of it. As you well knows, he is in for a lot more trouble before he gets through. In them days to become a yachtsman you has to go through a lot of misery but Percival Platnumb he comes from a hardy race, he sticks to it, and some day I tells you more about how he gets on.

Silver Heels II Going South

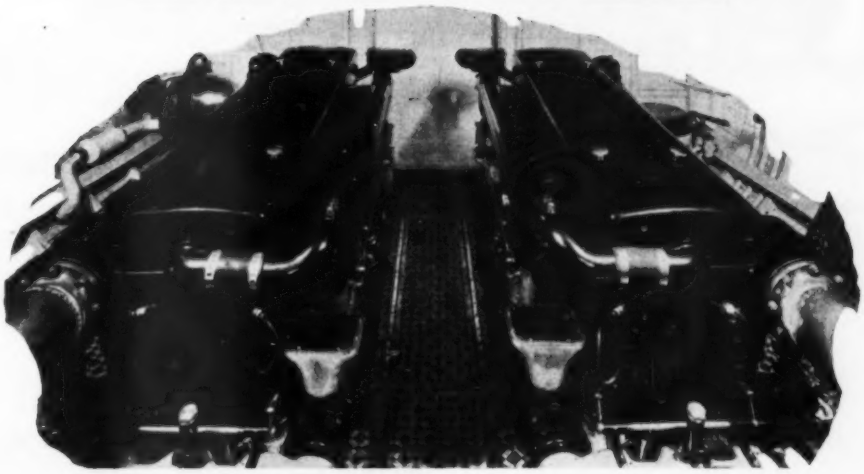
Word has been received that the yacht, Silver Heels II, will leave soon from Detroit for Miami Beach, where she will be tied at the docks of the Fleetwood Hotel. The yacht is owned by Commodore A. A. Schantz, of Detroit, who has charge of the annual regatta, and has been prominent in Miami Beach winter social and yachting circles for several years.

An Improved Steering Device

As specialists in the manufacture of marine steering gears, and similar accessories, Kainer & Company of Chicago, have just developed a new gear equipped with the popular finger spark and throttle controls, rubber horn button, walnut steering rim, 18 inches in diameter with an inserted spider. The gear is so constructed as to permit the column to be placed at most any angle at the time of its installation, allowing more or less leg room, according to requirements. An adjustable bracket on the drum frame takes care of this, as well as an adjustable bulk head plate. The drum is driven with an internal heavy steel shaft keyed to both the drum and spider hub, and not driven by the outside steering column as is more customary. This construction permits the outside column to be stationary, and

Advertising Index will be found on page 138.

PACKARD MARINE ENGINES



Packard Model 2M–1551; Shenandoah type; Six Cylinders; Weight 1790 lbs.; $10,000.00

"Shadow J" Powered by Packard Shenandoah Type Motors

Desiring for his new express cruiser, "Shadow J", the same reliability and horse power of the Packard motors which performed so splendidly in the U. S. Navy's dirigible "Shenandoah", Mr. Carl Fisher naturally turned to the Packard Shenandoah type marine motors for a twin installation in his handsome Purdy-built boat.

In power, dependability, and longevity, the Packard Shenandoah type marine motor (Model 2M–1551) is beyond a doubt the most advanced engine of its class today. It is one of a line of five marine models designed and priced to meet every boating need.

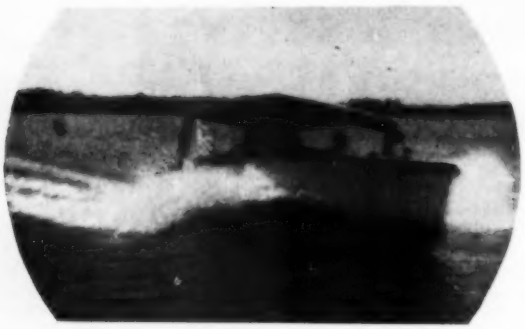
Catalogues of five sizes of Packard marine engines furnished on request.

PACKARD MOTOR CAR COMPANY
Detroit, Michigan

The "Shadow J," built by the Purdy Boat Works, Trenton, Mich., is 56' x 11' 6". Owned by Mr. Carl Fisher of Indianapolis and Miami, Fla.

On the maiden voyage of the "Shadow J" its Packard Shenandoah type engines developed 275 H.P. each at 1400 R.P.M., and a speed of 34.5 M.P.H.

Dr. James J. Costanzo, Stamford, Conn., owns the "Katherine C," a heavy built schooner type cruiser. This craft, a 32 footer, with 12' 4" beam gives its owner pleasure beyond measure. He says, "It's a real boat for parties. I have had thirty-five on board and had room for more. She is fully equipped for comfort and has a "hummer" of an engine —a Kermath 35 which drives her along at better than ten miles per hour."



The Everett Hunter Boat Co., McHenry, Ill., build excellent boats. Here is one, the "Mavis," owned by Mr. John A. MacLean, Chicago, Ill. The "Mavis" is 25' in length, she makes 24 miles per hour with her Kermath 50, without any strain. Say, doesn't she look pretty racing over the water?

"Liberty," a 23 ft. runabout built by R. L. Stewart, a boat builder at Belgrade Lakes, Maine. This trim little boat is powered with a 16 H. P. Kermath and attains a speed of 14 miles per hour.

"Greta M," owned by Charles Lenfesty of Beals, Maine. Mr. Lenfesty is a first class fisherman and is very proud of his boat which is powered with a Kermath 20 and travels at 12 miles per hour.

This sedan yacht tender built by Frederick S. Nock, East Greenwich, R. I., for the late Col. Joseph E. Fletcher's yacht "Juniata" of Providence, R. I., is driven by a Kermath 20.

Advertising Index will be found on page 158.

The Ventnor Boat Works of Atlantic City, N. J., long ago earned a reputation for building good boats and fast ones. This is one of their 1924 Model standardized 25 ft. runabouts which they regularly equip with the Kermath 50. It makes 24-25 miles per hour, carries 6 to 8 passengers and has proved highly satisfactory to all of the owners who have purchased one of these boats this year. For next year Ventnor is adding to their line a 30-mile monoplane which will also be powered with a Kermath 50.

By Comparison Boating Excels All Other Forms of Recreation

BOATING is a clean outdoor, soul stirring recreation that holds the same rapture and adventure for the owner of a small boat as it does for the palatial yacht owner. It's a health giving sport, a producer of keen appetites, bronze skin, clear eyes, sound sleep and contentment.

Buy a boat and get away from the crowdness of the world. You will experience the greatest sport known to man. Over three thousand boat builders in the United States are at your service. Let us help you select the boat best fitted for your requirement and direct you to a boat builder who has what you want.

Boating enjoyment is to a great extent controlled by the performance of the power plant. The thinking man knows this—and instructs his boat builder to install a Kermath.

Write today for information about boats and boat builders.

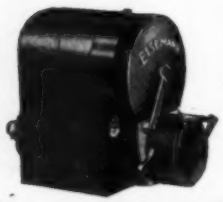
KERMATH MFG. CO., 5879 Commonwealth Ave., DETROIT, MICHIGAN

This boat has lots of snap in appearance and in speed too. It is a standardized round bottom runabout 26' x 6' built by Ditchburn Boats, Ltd., Gravenhurst, Ontario, Canada. She is driven by a Kermath 35-50 and makes an easy running speed of 21 miles per hour.

EISEMANN
ELECTRICAL EQUIPMENT

EISEMANN IGNITION APPARATUS for 1, 2, 4 and 6 cylinder engines is unexcelled for its correct design; accurate and careful workmanship and unfailing performance, even under the severest working conditions.

Inquiries solicited



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General Offices: 165 Broadway, New York
DETROIT SAN FRANCISCO CHICAGO

Plank her with non-rot, non-warp, genuine
Tide Water Cypress
"The Wood Eternal"

"THE BEST LUMBER FOR BOATS BIG OR LITTLE"

For all marine use SPECIFY "ALL-HEART" GRADE. It assures the boat owner satisfactory service in the highest degree. "Plank with Cypress and you plank but once."

Southern Cypress Manufacturers' Assn.
1317 Poydras Bldg., New Orleans, La., or 1317 Graham Bldg, Jacksonville, Fla.

TIDEWATER CYPRESS, "the Wood Eternal," is identified by the CYPRESS trade-mark "arrow." Please write us immediately if you can't find it.

SEA DOG 25-Mile Express Runabout

Price with single cockpit, $2200; with double cockpit, $2260
F. O. B. Medford
Powered with Kermath Model 50 Motor
Circular and Specifications on Request. Send for Catalog of Sail and Power Dories and the 15 ft. Toppan Outboard Motor Boat with Elto Motor

TOPPAN BOAT & ENGINE CO., 125 Riverside Ave., MEDFORD, MASS

Beeswing II, A New Play Boat

(*Continued from page 32*)

party and the latter three. There are two entrances to the cabin—one forward and one aft. Steps leading down from each deck. In the cabin two berths are arranged. One on either side with lockers under. Pipe berths to form Pullmans may be installed so that four can sleep comfortably. Next following is the galley which includes ice box, stove, sink, dish racks, lockers, etc. A separate compartment for the toilet room is located on the starboard side. The after part of the raised deck section houses the power plant, a 180 h.p. Speedway Model MR engine which drives the boat at a speed of 24 miles per hour. Deep tufted cushions are supplied for seats and berths and all equipment as required by law is furnished. The Play Boat as a whole is a carefully thought out model where the maximum of pleasure may be secured with the minimum operating expense.

The photographs show views of Beeswing II as she whizzed over the certified mile course in the Hudson River. President Amory is shown as he settled down into the deep cushioned seat in the observation cockpit forward just prior to leaving for the trial run.

"The enthusiastic response from the yachting public for this type of boat seems incredible," said Mr. Amory as we started out through the Harlem River ship canal. "As a matter of fact," he continued, "since the inception of this model a year ago we have been unable to keep enough boats in reserve to supply the demand. We have now doubled up on our building program and should have sufficient on hand to meet the Florida requirements at least."

After several runs up and down the course and the tabulation of the speed records, we hurried back to the building slip where waiting workmen scurried aboard to add the final touches before Beeswing II sailed on her maiden voyage to Palm Beach, Florida. Here Mr. Moore will join his new boat and become one more of the many Play Boat enthusiasts who winter at Miami or Palm Beach.

The Diesel Engine's Influence

(*Continued from page 31*)

same power. Among the factors which must be considered in this connection are:

Details of hull construction
Weight or displacement of vessel
Location of engines
Design of machinery foundations
Machinery particulars, including general design, weight, balance, and number of revolutions

The tankage or arrangement to carry oil is also of great importance in order that proper stability may be maintained at all times, also that the trim may be satisfactory under all conditions of load, and proper attention paid to the arrangements for taking on oil, transferring oil from different parts of the vessel and delivering it to the engines.

The auxiliaries themselves must be chosen with extreme care from among the many makes available in order that reliability may be secured and unnecessary noise and vibration eliminated.

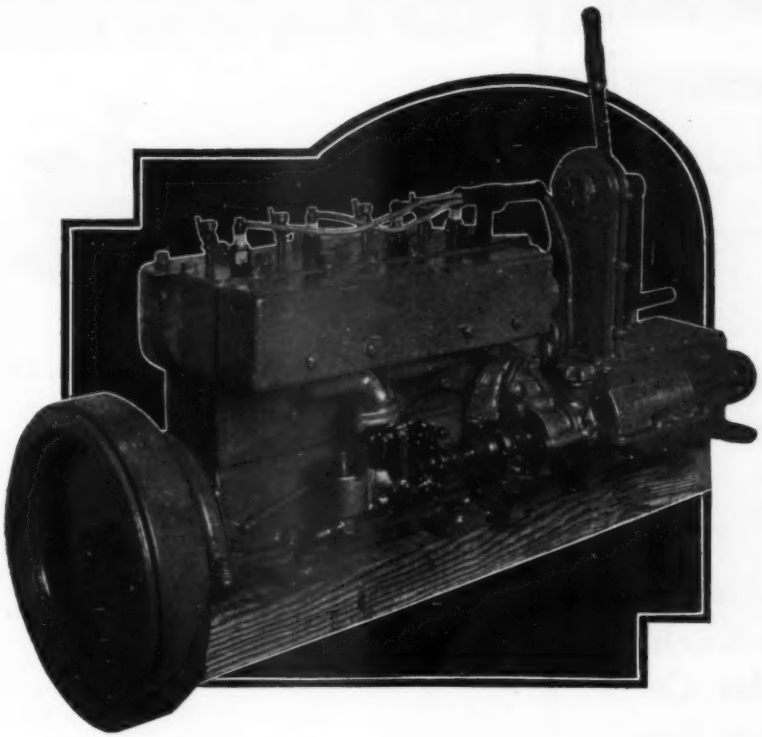
The details of installation both of the engines themselves and of the auxiliaries require particular attention, and success or failure may largely depend upon the care and knowledge with which this problem has been considered.

A study of the characteristics of the Diesel yachts that have been built and a comparison between these vessels and the fleet of steam yachts which they have replaced, shows several interesting facts. In the first place, for reasons that have already been given, the average size of the Diesel yacht is considerably less than that of the steam yacht which formerly performed the same service: This, however, without any loss to the owner in accommodation or seaworthiness, and with a very great increase in the steaming radius, considerably smaller crew and a much lower cost of operation. In addition Diesel yachts will be found generally to be of a more rugged and seaworthy type than the average steam yachts, having relatively greater beam, better scantlings, more draft and much more displacement; all these points working for a more wholesome, sensible and practical type of vessel.

A very interesting feature is that Diesel yacht design has practically, without exception, departed entirely from the clipper bow type of vessel almost standard for many years in steam yacht design. A practically straight or slightly raking stem with a short overhanging stern is seen in nearly all the modern Diesel vessels. Together with this change in the general character of the design will be found a more or less standardized type of construction where in place of one or more lightly built wooden houses on the main deck, a substantial continuous steel deckhouse is fitted on the Diesel vessels, not only affording exceptional room on this deck but permitting access from one part of the ship to the other without having to go on deck.

(*Continued on page 94*)

Advertising Index will be found on page 138.



The international-16 develops 10 H.P. at 500 R.P.M. and up to 18 H.P. at 1200 R.P.M. Compact in construction, it is an unusually adaptable engine.

"Never touched it all Season"

INTERNATIONAL—16

No motor could give less trouble than the International — 16, as shown by the reports gathered from her users. A typical one reads, "Never touched it all season; haven't even had a spark plug out."

Then besides in back of this faultless four motor, in emergencies, is Ford Replacement Part Service, and Ford Service Stations can overhaul or repair it.

Reverse gear and Rear Starter, Optional Equipment.

Write for prices and complete information.

INTERNATIONAL MANUFACTURING CO.

1435 FRANKLIN ST. DETROIT, MICH.

Export Department: 132 Nassau St., New York City.

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44 Third Ave., New York City

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Fort Pierce Machine Shop,
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McNAB Maneuvering Rudder

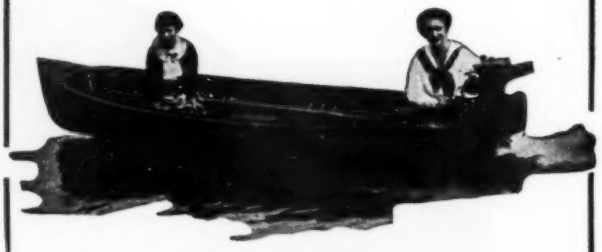
GIVES
BETTER CONTROL
GREATER SIMPLICITY
AT LOWER COST

No Reverse Gear
No Reversing of Engines

Visit our Exhibit, Booth 105-106,
20th Annual Motor Boat Show
Grand Central Palace, New York
January 2nd to 10th

The
McNab-Kitchen-Rudder Co.
Bridgeport, Conn.

Small Boats of All Kinds



Outboard Motor Boats, Rowboats, St. Lawrence Skiffs, Canoes, Dinghies, Sailboats, Small Launches

Our ILLUSTRATED CATALOG offers you a wide range of choice. Write for copy.

Skaneateles Boat & Canoe Co.
Builders of "Boats That Will Last"
38 Jordan St., Skaneateles, N. Y.

ESTABLISHED 1880

The Diesel Engine's Influence

(*Continued from page 92*)

While it may be said that certain of these features would have been adopted even if Diesel engines had not been used, the fact remains that they originated with the Diesel Yacht and it is more than likely that if steam yachts had been built during the same period they would not have been unlike the steam yachts previously in existence.

In conclusion it may truthfully be said that the development of the Diesel engine and its successful use in yacht design has saved from extinction the seagoing type of yacht, and has practically revolutionized the general features of design and construction of pleasure vessels equipped with power. The Diesel engine has proved its reliability beyond question. When of proper design and when properly installed in a suitable hull, the owner will experience even less noise and vibration than in a steam yacht equipped with a power plant of the same capacity.

The owner of a Diesel yacht is relieved from the annoying necessity of frequently taking on bunker fuel and for the same reason, namely fuel economy, can make extended cruises without rebunkering. His vessel will run with a much smaller crew than required for a steam vessel capable of even approximating the same service, and the cost of maintenance and operation will be greatly reduced.

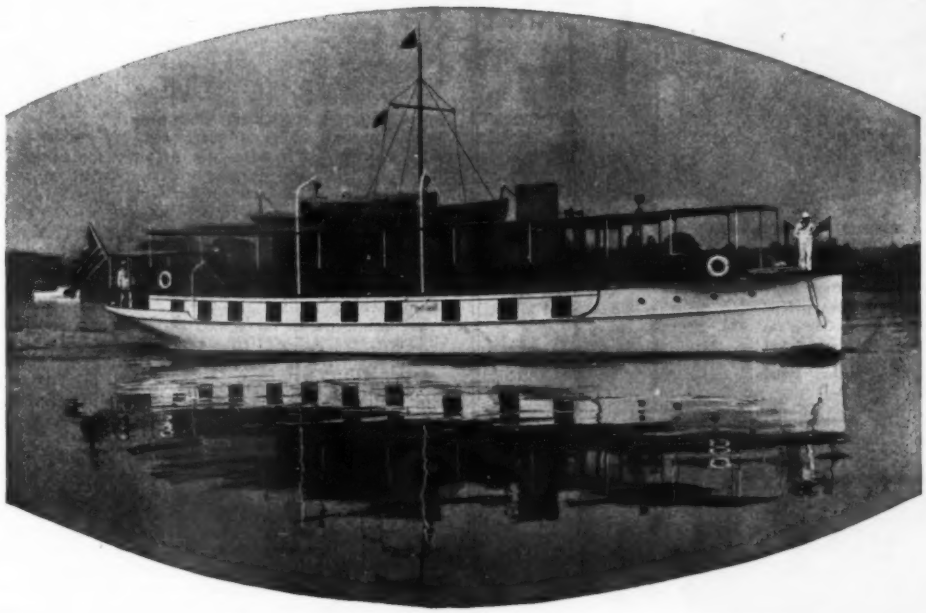
The trend of the times is all away from extravagance both afloat and ashore. The Diesel engine is the one outstanding development in the marine world that has worked in this direction and has made possible a continuance of the greatest of all sports.—Yachting.

American Owned Diesel Yachts Built Since the War

Name	Type	L. O. A.	L. W. L.	Beam	Draft	Owner
Vanadis	Seagoing yacht	240- 0	210-0	34-10	15- 0	C. K. G. Billings
Ara	Seagoing yacht	211-19	213-0	31- 3	14- 6	W. K. Vanderbilt
Hussar	Auxiliary schooner	210- 0	164-0	33- 0	14- 0	E. F. Hutton
Dolphin	Seagoing yacht	180- 8	170-0	24- 0	8- 6	Mortimer L. Schiff
Ohio	Seagoing yacht	172- 0	163-6	26- 0	11- 0	E. W. Scripps
Ara	Seagoing yacht	165- 0	152-0	24- 0	8- 6	E. B. Dane
Nourmahal	Seagoing yacht	162- 7	151-0	25- 2	10- 6	Vincent Astor
Goodwill	Auxiliary schooner	161- 0	120-0	30- 2	15- 3	Keith Spalding
Vedette	Seagoing yacht	158- 6	148-0	26- 0	11- 0	P. W. Vanderbilt
Oceanus	Seagoing yacht	156- 4	149-2	24- 6	9- 6	J. W. Kiser
Ripple	Seagoing yacht	133- 9	126-0	23- 0	8- 6	C. M. Leonard
Cynthia	Coastwise yacht	129- 0	122-0	23- 0	7- 0	M. B. Mills
Zalophus	Houseboat	125- 7	117-8	21- 3	4- 0	John Ringling
Moby Dick	Auxiliary schooner	120- 0	101-2	21-10	6-10	F. S. Fish
Colleen	Coastwise yacht	110- 0	102-0	18- 2	6- 0	S. A. Salvage.
Mirmar	Houseboat	100- 0	95-3	21- 0	4- 3	E. M. Statler
Nenemousha	Coastwise yacht	97- 8	90-0	17- 0	5- 2	A. I. Dupont

Advertising Index will be found on page 138.

MATHIS YACHT BUILDING CO.



85 feet of Houseboat Perfection

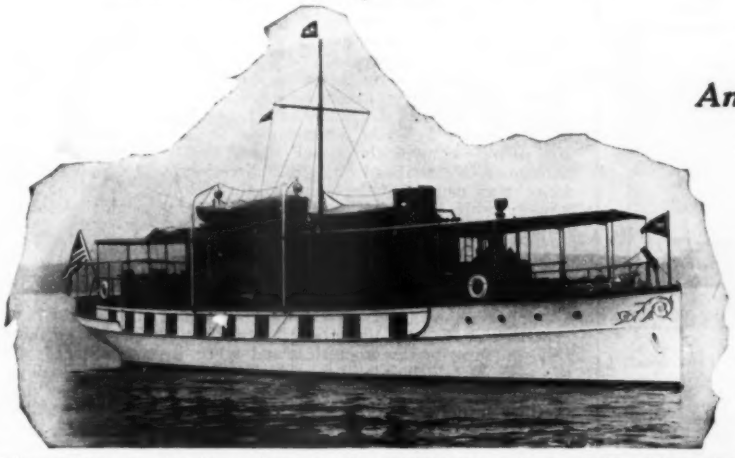
Above, "SEQUOIA", for Mr. Richard M. Cadwallader, Jr., Philadelphia.

Below, "ZENITHIA", for Mr. A. J. Fay, Lowell, Mass.

Both 85 feet long; both with 17-ft. 6-inch beam; both with 3-ft. 9-inch draft. And both with the newly perfected Yacht-type Stern which has established so exceptional a showing as to speed and seaworthiness since its introduction by us.

Wherever these newly launched houseboats go, they are the center of interest for their ability to go anywhere, combined with the utmost in comfort and economy of operation.

In short, they typify today—just as the epoch-making Cocopomelo did in 1909, the latest perfections developed by

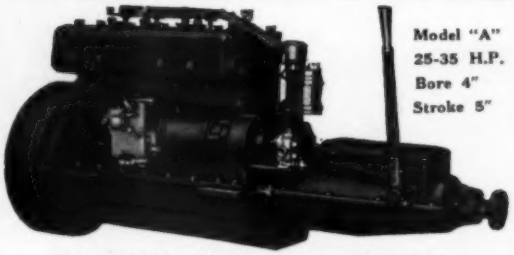


America's Pioneer Houseboat Specialists—

Mathis Yacht Building Company

Cooper's Point, Camden, N.J.

ROBERTS MOTORS

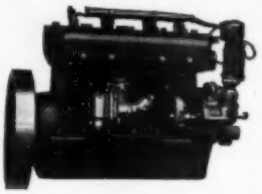


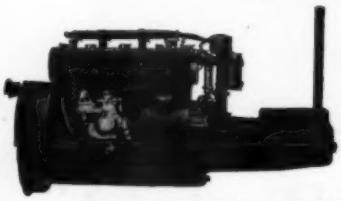
Model "A"
25-35 H.P.
Bore 4"
Stroke 5"

Price $388.00, without reverse gear or starter.

Model "J" 16 H.P. Bore 3¾", Stroke 4". The lowest priced engine in America. Complete as shown, $179.00.

Interchangeable with Ford parts.





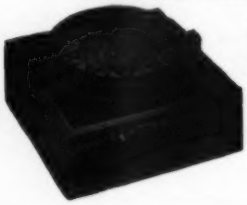
Model "R" 16-20 H.P. Bore 3-25/32", stroke 4". Price complete without reverse gear or starter, $250.00.

ROBERTS MOTORS
SANDUSKY, OHIO

The Compass For Your Boat

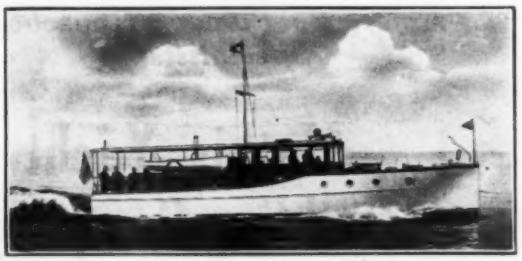
should be the best obtainable. For seventy years Ritchie compasses have been the choice of experienced navigators.

Select the Ritchie for your boat



Our catalog will show you the one best suited for your needs. Send for a copy today.

E. S. Ritchie & Sons
Established 1850
110 Cypress Street
Brookline, Mass.



55-foot enclosed bridge cruiser

Builders of standardized cruisers 33, 36, 40, 45, 50, 55 and 62 feet, incorporating quality of workmanship and distinction in design and arrangement.

ROCHESTER BOAT WORKS, INC.
10 Charlotte Station :: Rochester, N. Y.
Originators of the standardized enclosed bridge deck

Is the Rudder Obsolete?

(*Continued from page* 33)

incredible, however, that with all such changes in the control of the ship's rudder, that the rudder itself has remained unchanged throughout the ages, our method of guiding a ship on her course is the same to-day as it was in the days of the early navigator.

The power to maneuver and reverse must be possessed by all self-propelled craft to a greater or lesser extent, whether such vessel be motor boat or ocean motor ship, therefore, for steering purposes the ancient form of rudder often fails to give that desired power of steering control especially when the vessel is progressing in the astern direction.

The present form of flat swinging rudder when first introduced by the early navigator served its purposes for steering in the ahead direction in open waters, therefore, as all sailing craft were incapable of astern maneuvers, there was no need to provide for absolute ship control in the reverse direction.

With the advent of the screw propeller, this early form of rudder had served its purpose and should have been abandoned, this for the reason that for astern maneuvers it leaves much to be desired, we cannot help but acknowledge that the maneuvering ability of even a moderate sized self-propelled craft in narrow or congested waterways is unwieldy and clumsy; this is entirely due to the continued use of the ancient type of rudder which is abortive to our modern method of propulsion.

The ordinary form of rudder was perfectly satisfactory up to and including the passing of the side wheel steamer, but when the screw propeller was introduced as a motive power for ships, an opportunity was given us, but neglected for many years, to absolutely control the stream forces of the propeller without resorting to engine maneuvers, enabling us to steer and maneuver any type of craft in such a manner as never before known throughout the history of navigation.

Recent developments have conclusively proved, that without alteration to the present method of propulsion, except in simplifying the propelling unit by the entire elimination of the reverse gear or reversing mechanism, that any self-propelled craft regardless of her size can be maneuvered in the ahead or astern direction at any desired speed, held stationary as if at anchor, rotated on its own axis to port or starboard without progression, or brought to dead stop from full speed ahead in vessel's own length without vibration or strain to the engine, rudder or hull, all these maneuvers are carried out direct from the navigating position, without interfering with the continued ahead speed of engine and propeller, and also without reference to the engine room.

Such maneuvers as described above are readily attained through the McNab-Kitchen Rudder. The design and operation of this remarkable rudder being the first radical departure from the design of the ordinary ship's rudder throughout many hundreds of years—truly, a wonderful achievement.

The McNab-Kitchen Maneuvering Rudder has already proved its value in hundreds of craft, propelled by the internal combustion engine, its adoption reduces the initial cost of the propelling machinery, as the engines can be made non-reversible, since maneuvering is carried out through the rudder. This materially adds to the simplicity of the engine and to the continued reliability of the propelling unit.

It is a well-known fact, that the ideal condition for any make of internal combustion engine to work under, is to keep such engines running at a steady speed and under a constant load. Any internal combustion propelling unit, regardless of whether such engine be installed on the small motor launch or the ocean Diesel ship, must be operated at low and high speeds to attain that maneuvering ability necessary in navigation. To be able to obtain the most delicate ship maneuvers, without having to interfere with the constant load or steady running of the propelling unit is a simple matter with the McNab-Kitchen.

Rudder, as this remarkable rudder acting as a bi-valve permits the navigator by simple mechanism to open and close same, and to use the exact amount of propulsive stream necessary for ahead and astern maneuvers, or to neutralize the propelling stream forces in such a manner as to become negative. By this delicate control, the vessel's speed can be regulated in such a manner in the ahead or astern directions as to give a flexibility that can never be equalled through the propelling machinery itself, whether directly connected or through the electric drive.

A New Niagara Engine

Announcement has been made of a new one cylinder Niagara marine engine, with the same bore and stroke as the popular Ford engine. The Niagara Motor Company of Buffalo have practically completed the production machinery for turning these little engines out in quantities, and when it is announced and the price at which it will be sold is made public, there will be quite some demand for this little machine. Another new unit in their production line will be a generating set connected to their regular four cylinder special engine. At a later time, these units will be illustrated when photographs are available.

Advertising Index will be found on page 138.

The Water-Lubricated Bearing

—*that has set the whole marine world talking*

Recent years have witnessed wonderful developments in the application of rubber to new and improved uses for industrial purposes.

One of absorbing interest and of far-reaching importance to the marine industry, is the Goodrich "Cutless Bearing." It is an entirely new application of rubber to bearings and it affects every type of craft from the largest to the smallest, in fact, wherever a bearing is used.

It uses water, not oil, as a lubricant. Its Olivite rubber surface, when wet, has far less resistance than an oiled surface, hence its life is far longer than any other bearing—whether wood, metal or babbitted types; sand and grit cannot become imbedded; bearing wear is eliminated, vibration is lessened, shaft scoring is a thing of the past.

We have records of most convincing performances showing this bearing's superiority under sandiest and dirtiest of water conditions. By all means investigate them—write for complete data.

It is mechanically easy to replace other bearings with Goodrich Cutless. Bearing comes complete with brass shell to slide into housing and is held by set-screw or collar key or any other mechanical means used for fastening sleeve bearings.

THE B. F. GOODRICH RUBBER COMPANY, *Akron, Ohio*
ESTABLISHED 1870

Goodrich
Cutless Bearings

"BEST IN THE LONG RUN"

MOTOR BOATING PRACTICAL HAND-BOOKS

Every motor boatman has long felt the need for a really complete and comprehensive library devoted to his favorite pastime—motor boating. One of the obstacles to the accomplishment of this important work was the difficulty in finding any one writer who could cover the field in its entirety. In presenting the new series of practical handbooks, MoToR BoatinG believes that the problem has been solved at last. These books are edited by Charles F. Chapman, M. E., the editor of MoToR BoatinG, and they are the results of months of untiring effort on his part, together with the best of thousands of suggestions sent to him by motor boatmen themselves. The list of the contents given below will give you some idea of the vast amount of ground covered by these volumes.

Practical Motor Boats and Their Equipment

Volume 1.—The first volume tells you what the ideal boat for various kinds of service should be and what to look for in buying a boat. Many suggestions about decoration and hints on all kinds of equipment. All about steering gears, wireless outfits, electrical attachments, etc. Glance over the list of contents appended herewith: Hulls, Ballast and Seaworthiness; Round Bottom vs. Sharp Bilge; What Are the Advantages of Flare; Raised Deck vs. Trunk Cabin; Best Proportion of Beam to Length; Selecting a New Design; The Advantage of Bilge Keels; Open or Solid Deadwood? What Makes a Hull Seaworthy? The $1,000 Cruiser; Buying a Second-Hand Boat; Types of Bows and Sterns; Exterior Arrangement of Cruisers; The Best Cabin Arrangement; Finishing Up the Cabin; Changes in Interior Arrangement; Interior Arrangement for Open Boat; Propeller-Rudder Arrangements; Best Position for the Rudder; Advantages of the Outboard Rudder; Different Steering Positions; Steering Equipments for Motor Boats; Steering Gear for the Cruiser; The Steering Gear for a Runabout; Steering the Boat from the Side; The Electrical Equipment; Making and Wiring a Switchboard; Electric Lighting on a Motor Boat; The Inexpensive Lighting Outfit; Wiring the Small Cruiser; The Storage Battery; The Dynamo Cut-Out; Wireless for a Small Cruiser; Tender for a Thirty-foot Cruiser; Building a Folding Dinghy; Installing the Boat Boom; What is the Best Galley Arrangement; Ventilating the Galley; The Galley Stove and Its Installation; Making a Fireless Cooker; A Portable Cook Box; Running Water for the Cruiser; How to Build a Portable Table; A Table for the Open Boat.

Practical Motor Boat Building

Volume 2.—As its title implies, this volume takes up the building of your own boat. It also covers the construction of the necessary fittings such as awning, windshield, etc. Every boatman some time or other builds a boat, and a book of this kind will save much time and prevent many mistakes. List of contents: Types of Motor Boat Fastenings; Boat Building Woods; Laying Down a Boat's Lines; Converting a Trunk-Cabin Cruiser; A Steam Box for Amateur Builders; Joiner Between Stem and Keel; Fastening the Frames and Floors; Boring the Forgotten Limbers; Fitting the Garboard Plank; Boring the Shaftlog; Fitting the Stuffing Box; The Stern Bearings for a Cruiser; A Water-Tight Companionway; How to Canvas a Deck; Hinged Water-Tight Hatches; Making a Water-Tight Hatch; The Coaming of an Open Boat; Fitting a Swinging Port Light; Making a Self-Bailing Cockpit; A Water-Tight Window Sash; Making a Water-Tight Skylight; How to Build an Engine Housing; How to Make an Engine Cover; Building a Tool Locker; Constructing an Extension Transom; How to Make a Pipe Berth; An Ice Box for a Cruiser; Installing a Toilet; How to Rig a Signal Mast; How to Make a Spray Hood; Fitting a Folding Windshield; An Awning for the Open Boat; A Cover for the Open Cockpit; Screen for the Side Light; A Support for the After Light; A Seat for the Man at the Wheel; Removable Davits for the Cruiser; The Boarding Steps; A Bow Rudder for Your Hydro; The Motor-Driven Club Tender.

Practical Things Motor Boatmen Should Know

Volume 3.—Navigation is one of the important subjects covered in volume three of the series. Tells you how to steer, how to increase the factor of safety, and a host of other things relative to the proper running of your boat. The chart and compass are both fully explained in a clear and comprehensive manner. The list of contents will tell you more about it: Advice for the Beginner. Lessons Learned from Experience; Good Things to Know; Increasing the Factor of Safety; Which Way Should the Boat Steer? Why a Boat Steers Badly; Why Do Boats Squat? Figuring the Boat's Speed; Ballasting the Cruiser; Getting Off Bottom; To Ride Out a Storm in a Motor Boat; The Why and How of Storm Oil; Preventing Fire; Handling Ground Tackle; Government Charts; Stowing the Anchor on a Cruiser; Diminishing Deviation; Preventing Electrolysis; Stowing and Using Charts; How to Make a Chart Case; Keeping a Motor Boat's Log; How to Make a Sextant; Tides and Tidal Waters; Taking Her Through the Canals; The Best All Round Dinghy; Towing the Tender; Handling the Dory in a Seaway; Getting the Tender Aboard; Planning for a Cruise; Equipping for a Cruise; Equipment for Offshore Cruising; Novel Events for Regatta Day; Handicapping; The Object of a Handicap Rule; Laying Off a Race Course; Measuring the Length of a Race Course; Preparing a Boat's Bottom for a Race; How to Build a Turning Buoy; Starting Boats in a Race; Stowing the Signal Flags; Fitting a Gun Mount; A Fish Box for Your Cruiser; A Cabin Wall Rack.

Practical Marine Motors

Volume 4.—All about the marine motor; what it should and should not be. Tells why the automobile engine is unsuccessful in marine work. The best location for your engine; the ideal engine bed, the fuel tank, exhaust and countless other suggestions that will enable you to get the best results from your power plant. List of contents: Purchasing a Marine Motor; How Many Cylinders? Power Per Cylinder; High Speed vs. Heavy Duty; Long Stroke vs. Short Stroke; Correct Motor Design; Changes in One's Power Plant; The Things that Cause Vibration; The Automobile Engine for a Boat; The Best Position for the Motor; The Ideal Engine Compartment; Placing the Engine in the Hull; Installing a Motor in a Canoe; Installing Power in a Yawl; Converting a "Banker" to Power Engine Installation in a Hydroplane; Putting Power in the Rowboat; Limits of Shaft Inclination; Constructing the Engine Bed; Getting the Motor Aboard; Lining Up the Propeller Shaft; The Best Exhaust; Mufflers vs. Under-Water Exhausts; Installing an Under-Water Exhaust; Primary Batteries for Ignition; Keeping the Ignition System Dry; Installing a High-Tension Magneto; From Make and Break to Jump Spark; Installing the Gasoline Tanks; Taking Care of Extra Gasoline; Spark and Throttle Controls; Constructing a Rear Starter; Propeller for Engine and Hull; Installing a Universal Joint; Gearing Motor to Propeller Shaft; The Automobile Throttle; Harnessing the Main Engine; Rebabbitting a Worn Bearing; Should Fuel Line Be Inside or Outside?

Practical Motor Operation and Maintenance

Volume 5.—One of the most valuable books of the entire set. Your motor's ills and how to cure them. This volume tells you how to adjust your carburetor, how to fit piston rings, how to remedy poor compression and a number of other things that will enable you to doctor your own motor. List of contents: Locating the Motor's Troubles; The Overheated Motor; Starting in Cold Weather; Overhauling a Marine Motor; How to Save Fuel; The Fuel Situation; Using Low Grade Fuel; How to Run on Kerosene; Supplying the Fuel to the Carburetor; Adjusting the Carburetor; Cleaning the Fuel Tanks; Cleaning the Gasoline Line; Stopping Up the Leak in the Tank; A Home-Made Gasoline Gauge; Carrying an Extra Supply of Oil; Mixing the Fuel and Lubricant; Remedying Leaky Compressions; Killing the Carbon Jinx; Tool and Spare Parts to Carry; Removing and Replacing Piston Rings; Repairing a Leaky Cylinder; Grinding a Motor's Valves; Setting the Valves; Timing the Ignition System; Cleaning the Water Jacket; Making and Fitting a Gasket; Patching Up a Bearing; Straightening the Sprung Shaft; Truing a Bent Propeller; Removing the Flywheel; Separating Couplings and Pipe Fittings; Changing the Shaft Hole Location; Utilizing the Exhaust; Disposing of the Bilge Water; Heating a Small Cruiser's Cabin; Operating the Outboard Motor; The Clean and Quiet Boat; Charging a Storage Battery; When the Motor Stops Unexpectedly; Making a Unit Power Plant.

Practical Suggestions for Handling, Fitting Out and Caring for the Boat

Volume 6.—This volume is an especially valuable one. You will find in it points covering the care of your boat that you never dreamed of before. Whether you are a beginner or a finished expert this book will give you a better knowledge of the handling of your craft than you can imagine. List of Contents: Putting the Boat Into Commission; Fitting Out a Thirty-Footer; Suggestions for the Beginner; Refinishing Bright Work; Keeping the Wood Surface Bright; Putting the Boat Out of Commission; Laying Up an Unsheltered Boat; Hauling Out for the Winter; Covering the Boat for the Winter; Launching from a Wharf; Correcting Faults; Lengthening Out the Boat; Moorings and Buoys; Taking Steps to Safeguard the Anchor; What to Use in the Bilge; Preserving the Wood in Boats; Emergency Rigs for the Cruiser; Auxiliary Sails for the Cruiser; Providing an Emergency Rudder; Preparing for Southern Waters; Stopping the Troublesome Leak; Replacing a Broken Plank; Removing Broken Lag Screws; Raising the Boat's Stern; Clearing the Propeller; Protecting the Bow and Stern; Open Boat Sleeping Quarters; Ventilating the Cabin of Small Cruisers; Converting the Open Boat to a Cruiser; Making a Cover for the Open Boat; Preventing Electrolysis; Building a Club Float; A Floating Boathouse; Constructing a Landing Stage; Building the Marine; Keeping the Thief Out; A Place for Your Shore Clothes; Stowing for Life Preservers; The Winter's Alterations; What Changes Shall I Make; The Satisfactory Bilge Pump; The Pressure Water System; Making a Pelorus; Your Storm Curtains; Life-Saving Equipment; The Absent Owner's Anchor Light; Mounting the Reverse Gear.

Price $1.50 Per Volume, or $7.50 Set of Six Volumes of Over 1,000 Pages

Foreign Postage $1.50 extra, per set

The books measure 7 x 10 inches and are handsomely bound in cloth. Each volume is fully illustrated and printed in clear type on fine paper.

MoToR BoatinG **119 West 40th Street, New York**

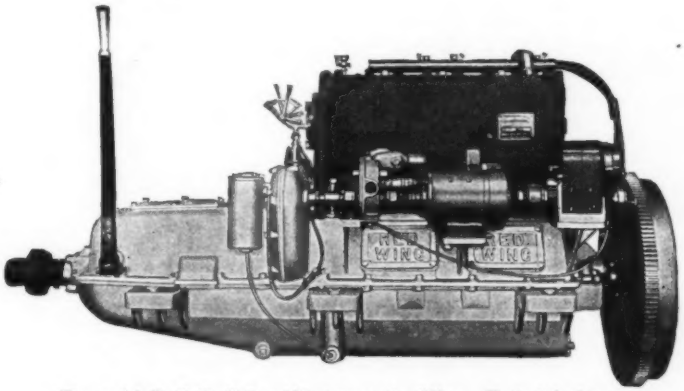
Advertising Index will be found on page 138.

"Mac" 30 x 8 ft. cruiser powered with model B 32 H.P. Red Wing; the smallest boat ever to enter the New Orleans to Pensacola cruiser marathon race, which she won, registering 200 miles in a 19 hour nonstop trip. Owner, Rox Cowley, Pensacola, Fla.

When the Shore Line Disappears

That's when its mighty good to have faith in your motor, the kind of faith that is justified by repetition of its reliability—time after time. That's when Red Wing THOROBRED comes into its own, seeming to know that it is expected to carry-on, to a safe return.

For years Red Wing has been the choice of hundreds of Off-Shore voyagers, and no better proof of their wisdom than the continuing popularity of these dependable powerplants.



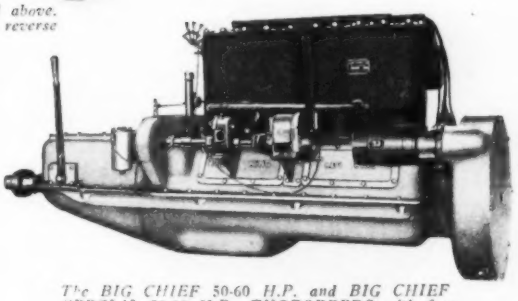
The model B 32-40 H.P. which powers the "Macs" illustrated above. A four cylinder four cycle unit power plant with built in reverse gear and pressure oiling system. Bore 4½", stroke 5".

Red Wing Thorobred
THE MOTOR WITH POWER TO SPARE

These reliable and efficient performing engines are now available for practically every type of boat from the 16 foot fisherman to the 100 foot cruiser; all four cycle and built to endure. All nine sizes will be exhibited in Block C at New York's Annual Motor Boat Show at the Grand Central Palace, January 2 to 10, 1924.

A Big Chief Thorobred for the Larger Cruiser

These husky four cylinder four cycle engines are built in two sizes; the Big Chief 50-60 H.P. with bore of 5" and stroke of 7"—and the Big Chief Special 70-90 H.P. size with bore of 5¾" and stroke of 7". Both sizes also furnished in true right and left hand style for twin screw installations. Full details on request.



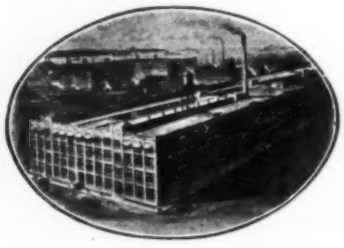
The BIG CHIEF 50-60 H.P. and BIG CHIEF SPECIAL 70-90 H.P. THOROBREDS with five bearing 2⅜" crank shaft, built in Paragon reverse gear, complete pressure oiling system and double ignition system.

Write for new 1925 catalog describing 9 THOROBRED sizes from 4 to 90 H. P.

Red Wing Motor Co. Dept. "B" **Red Wing, Minn., U.S.A.**

The American Machine & Foundry Co
will exhibit for the first time
the latest development in
ROTARY CIRCULATING
BILGE PUMPS
at the
20th Annual
MOTOR BOAT SHOW
Grand Central Palace
New York City
January 2nd to 10th

A-M-F Rotary Circulating Bilge Pumps are part of the only *complete* line of rotary circulating pumps now on the market, which may be connected direct to any commercial standard electric motor or to a suitable gasolene engine. No reduction gears or belts used.



AMERICAN MACHINE & FOUNDRY CO.
5520 Second Ave., Brooklyn, N. Y.

Fog in the English Channel

(*Continued from page* 20)

that time the sun would be shining gloriously. If only the motor wouldn't ditch us in the path of the big ships which rush up and down the Channel in the fog. But the motor began to die on its feet. I dropped below and laid my hand on it in a conciliatory way. The forward block of cylinders was cold, a result of too much circulating water. No wonder the poor girl wouldn't do her best work.

The intake water valve was turned until the water jacket began to be too hot for the hand, and it was like setting a cricket on a warm hearth. The engine chirped up to its normal revolutions, and I heaved a sigh of relief—the first of a number of such sighs in the course of twenty-one hours.

Since the engine was again taking care of itself, the next thing on the program was to go over my figures on the course to Guernsey. If it was going to be thick any later than three in the afternoon we might find it difficult to sight the island, and so we must be absolutely certain of the course. But, alas, I couldn't be absolutely certain.

The magnetic course from Bolt Head, Devon, to Platte Fougere, Guernsey, is SE ¾ S. Having in mind the prevailing westerlies, this is a course that anyone would be glad to steer. If there was any wind at all it was almost certain to be favorable.

But there was a big fly in the ointment. According to the deviation card which had been left for me on Adastra, her compass showed maximum error on this course—an easterly deviation of no less than twenty degrees. From the very first I had distrusted the accuracy of the compass adjuster's findings on Southeast, and upon leaving Falmouth Harbor had made shift to secure a check of my own. This had been done by lining the boat on a known range as close to SE ¾ S as could be found, and observing the compass bearing. Instead of twenty degrees easterly error it had shown only four degrees.

Now, as the fog alternately lifted and settled, but never gave us a visibility of more than half a mile, I wondered whether I had made a mistake in reading the compass in Falmouth. If I had, it would be advisable to change course to ESE, which would be correct for the previously ascertained error. But an ESE course without the large error would land us in the vicinity of the Casquets, the mere mention of which group of detached rocks makes every proper mariner blanch with fear. On the other hand, if the wide error was there, and we didn't allow for it, we would fetch up on Les Hanois, an almost equally dreaded series of reefs at the southwest end of Guernsey.

I finally decided to maintain our compass course of SE ½ S, putting my trust in the four degrees easterly error that had been obtained in Falmouth, and disregarding the deviation card. But as I looked up from the chart and into the dense fog, I felt that the required element of uncertainty was present with a vengeance.

We had been underway four hours, and had come twenty-three miles of our total of seventy-seven from Salcombe Harbor to St. Peter Port, when the engine began to feel drowsy. It droned along at a gradually decelerating tempo until I switched it from kerosene to gasoline and brought it back to life. Then we stopped it and cleaned a few plugs. Thereafter it ran on gas for an hour but refused to take the kerosene.

This behavior of the motor began to be alarming, as there was no sign of any wind, and we hadn't enough gasoline aboard to take us the entire distance. In desperation I scanned the instruction book for the twentieth time, and quite by chance read the most prominent paragraph in the whole pamphlet. It was a pink insert which stood out as prominently as a beacon on a hill, and for that very reason had been overlooked before. Barkham, glancing over my shoulder, came upon it at the same time, and with an exclamation of pleasure I read it to P. L. "Should the engine gradually take longer to heat up, the vaporizer requires cleaning. Remove the soot door and clean the interior of the vaporizer with a tooth brush." The word "soot" in this connection is Anglican for carbon. The symptoms diagnosed the engine's ailments exactly, and we shut her off and permitted the vaporizer to cool slightly.

Thereupon I climbed under the cockpit, identified the soot door, removed it, and for thirty minutes scraped the inside of the vaporizer with a knife and a brush, bringing out cakes of carbon that well repaid me for my efforts and my burnt fingers. To make a good job of it I attempted to remove a gadget known locally as a pilot cock, and in so doing sheared the head of a holding bolt. This was bad, but I hoped the pilot cock would be rusted enough to stay put without the bolt head.

When the engine was started, warmed up, and switched to kerosene, it ran with its original gaiety. But in another hour it slowed down and to keep it going we had to switch back to gasoline. It was now noon and the mist had lightened so that

(*Continued on page* 104)

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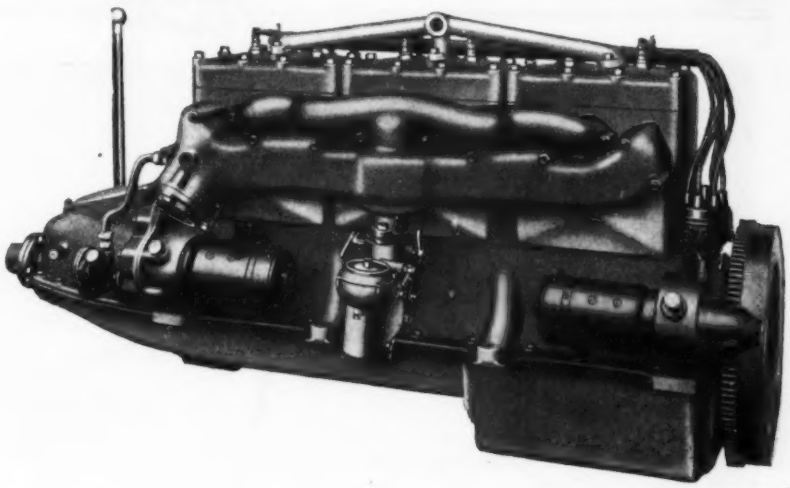
Scripps



F-6 $1250

50 H. P. Med. Duty

100 H. P. High Speed

Weight 750 lbs. Length 55/

A Line of Champions for 1925

Install a winner while you are at it.

Scripps engines are not racing engines but they are real durable, usable machines that win speed events by reason of their tremendous power, control, and reliability in every type of boat.

For high speed, nothing will approach the F series. The new Model F-6 took the Junior Gold Cup with ease on August 29th, not because it was a larger engine than its competitors in this event, as all had the same piston displacement, but because SCRIPPS engines develop so much more power for the same displacement than has before been attained. On Labor Day, the F-4 drove Mr. S. B. Week's "Fame" built by Apel, of Atlantic City, to first place in the So. Jersey and Delaware River Bay section championship, defeating boats with well known makes of motors ranging from 100 to 200 H.P. If you go in for off-shore work and want clocklike consistency, share the experience of Mr. W. C. Warmington of Los Angeles, whose heavy 45 ft. cruiser, equipped with one of our large 6's, won the 110-mile Catalina Ocean Race. The rules provided penalties for any motor adjustments or for exceeding or falling below the estimated time for the 110-mile run. Without a single adjustment "Billydick" finished 3½ minutes under schedule and won with a percentage of 99.8.

In the Tamqua Ocean Race, held September 21st, rough weather and a gale were encountered. The Gordon cruiser "Tescil", powered with an E-6, started as scratch boat, and pounding through heavy seas, finished first. The "Dawn", also Scripps equipped, made the next fastest time, while "Redcyl II" made third best time. Out of the 11 entries four were SCRIPPS powered and made first, second and third, in point of time.

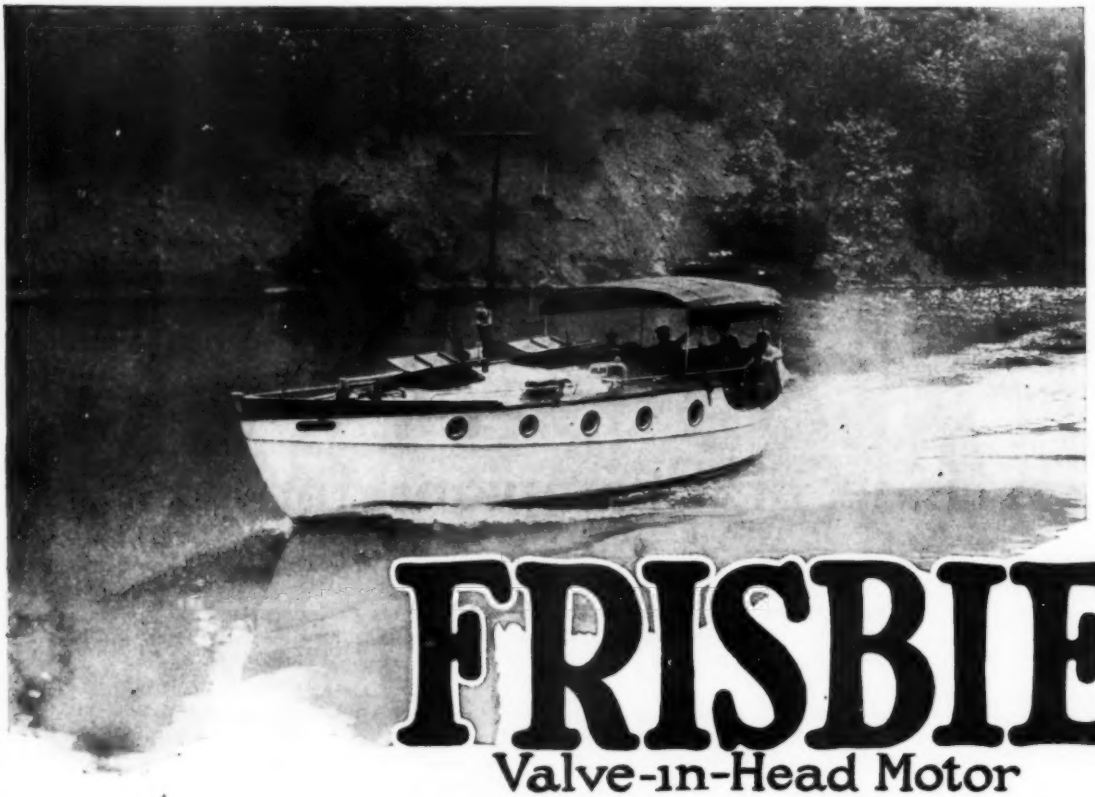
The 1925 models, everyone a winner, are now ready and in production.

D-2	10-12 H. P. M. D. 15-18 H. P. H. S.	$650.00	F-4	15-40 H. P. M. D. 40-60 H. P. H. S.	$750.00	E-6	40-60 H. P. M. D. 65-100 H. P. H. S.	$1750.00
F-6	50 H. P. M. D. 100 H. P. H. S.	$1250.00	E-4	30-45 H. P. M. D. 45-70 H. P. H. S.	$1250.00		Electric starter included	

SCRIPPS MOTOR COMPANY

5819 Lincoln Avenue **Detroit, Michigan**

Frisbie VALVE-IN-HEAD MOTOR



FRISBIE

Valve-in-Head Motor

Wins 1924 Scripps Trophy Race

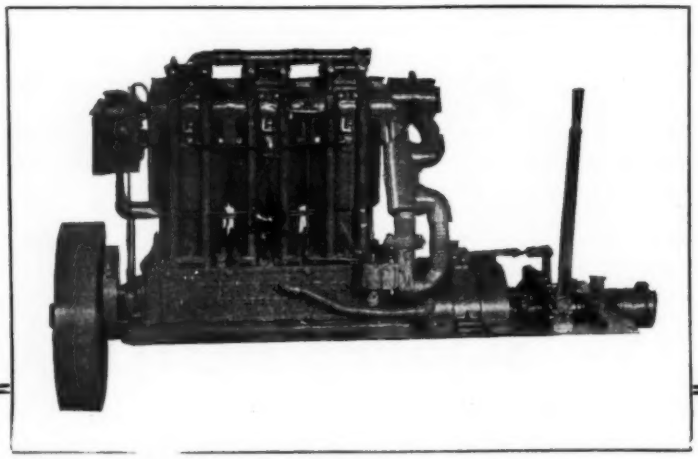
"HILDA", powered with a 3 cyl 6" x 6" "FRISBIE" engine, returned the winner in the annual reliability run for the $5000 Scripps Trophy.

Competition was keen over the entire course—from the Cleveland Yacht Club to Put-in-Bay and return, 112 miles—but the "FRISBIE" performed with the usual FRISBIE consistency and "HILDA" came home in front.

More Frisbie information upon request.

Frisbie Motor Company

7 College Street, Middletown, Conn.



Frisbie VALVE-IN-HEAD MOTOR

Advertising Index will be found on page 138.

CHARLES E. JOHNSON, PRESIDENT
CARL P. DAMM, VICE PRESIDENT
PAUL R. BEARDSLEY, SECRETARY & TREASURER

THE Piston RING COMPANY

Muskegon, Michigan

The close business relations which have existed between this company and the No-Leak-O Piston Ring Co. for eleven years are well known throughout the industry and the fact that we are the manufacturers of the famous No-Leak-O piston rings has been established for some time.

Beyond the actual manufacture of the rings, the two organizations functioned on an entirely individual basis, with the No-Leak-O Co. concentrating all its efforts on the grooved ring field and the Piston Ring Co. on the plain ring field.

The agreement under which we have manufactured the No-Leak-O Piston Ring has expired and being cognizant of the growing demand for oil rings, negotiations were begun several months ago looking toward the consolidation of the two companies, with the natural resulting benefits and economies inevitable in such a consolidation.

It gives us much pleasure to announce that this consolidation has been accomplished and will be in effect November 1st, 1924.

Mr. L. F. Iverson, Manager of Service Division of the Piston Ring Co., will continue in that position in which he will have general supervision of the Service Branch of the business but will devote his time principally to the Quality Plain Ring department, while the No-Leak-O and Sealdrain rings will be combined in a department with Quality Drainoil rings under the management of Mr. L. G. Matthews, Treasurer of the No-Leak-O Co., who will be assisted by Mr. John E. Norwood, Jr., son of the inventor of No-Leak-O piston rings.
This consolidation provides not only the perfect piston ring line but insures also the continued effort and attention of men entirely familiar with both the plain and oil control rings, and who are thoroughly acquainted with the requirements of the trade.

You will appreciate that this combination will effect economies in various ways, the results of which we propose to pass on to you as is possible from time to time.

We solicit your increasing patronage and pledge you the same co-operation that has been such a factor in building up both companies.

Yours very truly,

THE PISTON RING COMPANY.

By Paul R. Beardsley

Sec. & Treas.

OLE EVINRUDE'S MASTER MOTOR 1/2 MORE POWER Yet—

Elto

The FASTEST LIGHT TWIN

Designed and Built by Ole Evinrude

Weighs Less Than 17 lbs. per H.P.

Ole Evinrude builds the lightest 3 H.P. motor made. He could as easily build the lightest 1 H.P. or 2 H.P. motor. But he knows that less than 3 H.P. is not enough for the speed you want or the safety you have a right to expect in rough waters, or with heavy loads. In the Elto Twin you get not only ease in carrying, but one-half more power and much more speed.

"Starts with a Touch"

No other outboard motor gives you instant starting every time, and safe rudder steering, leaving both hands free to troll or cast. The Elto is the safe family motor. No danger of sudden capsizing of boat while reversing. Weed-free, self-tilting propeller. Trouble-proof carburetor. The Elto fits in carrying case without taking apart. Write for free catalog.

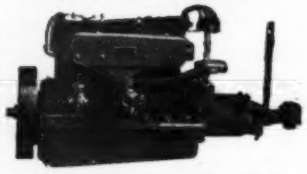
ELTO OUTBOARD MOTOR CO.

Dept. F. Manufacturers' Home Building. MILWAUKEE, WIS.

CADYFORD

WORLD WIDE SERVICE

Manufacturers OF TWO AND FOUR CYCLE MARINE ENGINE



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304 L Centre St. Canastota, N. Y.

PIONEER MARINE ENGINE MANUFACTURER

Established 1883

THE JOHNSON MARINE REVERSE GEAR

MAKES A COMPACT UNIT POWER PLANT

WHEN USED WITH THE

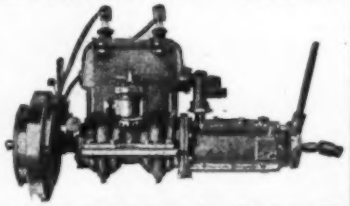
EVINRUDE 4 H.P. MODEL "DD" MOTOR

This special reverse gear can be made to fit any small motor.

Give your customer what he wants—a unit power plant that saves space and expense.

A Johnson Ball Bearing Gear that will last.

Write for catalog No. 25.



Courtesy: Evinrude Motor Co., Milwaukee, Wis.

THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN.

Fog in the English Channel

(*Continued from page* 100)

we could see a small steamer bound west about three miles away. We followed her with our eyes for two or three miles, while the sun tried hard to break through, and our hearts rose in proportion to its warmth.

When the gasoline tank was sounded at two o'clock, we found ourselves with enough to last us eight hours, with the prospect of having to run ten hours to complete our distance. At the same time the fog thickened again, and matters began to look a little gloomy. Since there was the off chance that we were not steering the right course, we might miss Guernsey in the fog, and either come among the rocks along its flanks or lose it altogether.

If we failed to find it we should have to drift aimlessly until morning; and in the morning, if there was more fog and no wind, we should be still worse off, since by that time the engine would be so much dead weight in the bottom of the boat. And finally, if we lost the island and the wind rose in the night we might be dashed on one of a thousand unknown rocks.

There was one alternative to all this unpleasantness and we adopted it: If run on gasoline for ten seconds the engine picked up sufficiently to continue for twenty seconds on kerosene. So for two solid hours P. L. and I took turns at switching the two-way valve back and forth from the good fuel to the bad. By this expedient we traversed ten miles of water and reduced our supply of gasoline only half a gallon. This gave us the needed reserve to get to port entirely under gasoline.

At four o'clock the mist lifted and we saw the loom of the land to south'ard of us. This was disconcerting, as it should have borne southeast, or dead ahead. It put all my calculations out of order and indicated westerly instead of easterly compass deviation. However, I have jumped to rash conclusions too often to be fooled again, and we maintained our course, waiting a view of the land itself.

Presently the loom took shape, and, high above the southern horizon, we saw the outline of a bluff shore, green with the grass of Guernsey. Disgusted though I was with my navigation, we held the course, hoping in another ten minutes to see lighthouses and martello towers emerging from the silhouette.

Then—a steamer sailed directly out of the land!

Mirage. It is frequently seen on the French coast. Five minutes later there was a clear horizon where Guernsey had seemed to be, and ten minutes after that the fog had settled in again. Undismayed, we motored on for another hour, when by the reading of the taffrail log I judged that we had come inside the thirty-fathom curve that surrounds our destination. The motor was stopped and Barkham sounded. No bottom at thirty fathoms.

When the engine was started it backfired, blew past the broken connection at the pilot cock, and filled the bilge with poisonous fumes. What to do?

Barkham found a copper lamp reflector in the forecastle. I went after the pilot cock with oil can and discretion and succeeded in removing the remaining holding stud without accident. By the greatest of good luck the broken stud was left with a threaded part, long enough to cover a thin plate, and there was a nut in the tool box to fit it. With this combination of materials it took us less than an hour to flatten out the copper reflector, cut it roughly to the shape of the pilot cock, remove the latter from service and plug up the aperture. The pilot is intended for idling, and in our present need we could get along without it.

The engine was cranked. It took up its cycle. The copper plate held. And, wonder of wonders, a few minutes later the machine was running perfectly on kerosene. Great inventions nearly always come by accident.

During the period that Barkham and I were inquiring into the vitals of the engine, P. L. sat on deck, using her ears. Once she said she thought she heard thunder or gunfire to the south. Later she heard a siren give two mournful blasts to the southeast. At accurate ten-minute intervals she heard the thunder or gunfire.

These varied sounds brought our spirits back to normal even though the fog was now settling in for the night. The thunder was the explosive fog signal of Les Hanois, at the southwest end of Guernsey. The siren, by the grouping of its blasts, was Doyle Point, a temporary signal which is employed when Platte Fougere is out of order. Navigators' Stock, Common, went up above par, for the bearing of Doyle siren told us that we had made the right allowance for deviation and had sailed the proper course.

So we carried on for twenty-nine minutes and then shut off the motor. In one minute the explosive signal sounded, farther away and a little to the west of south. Then we picked up

(*Continued on page* 106)

TANKS

To Order - Any Size, Shape or Material

LET KOVEN build that tank for you. Your specifications will be followed to a "T" and delivery will be made long before the time you estimate the job would consume.

Koven facilities for the manufacture of tanks and industrial machinery are not equalled. The leading naval architects specify Koven tanks, and the best boat builders use them.

Tanks in standard sizes and shapes carried in stock for immediate shipment.

Write today for special marine catalog.

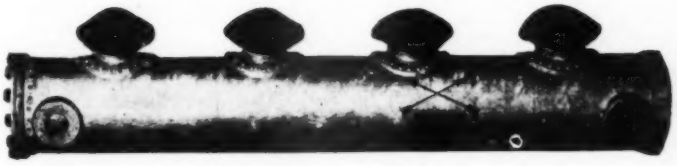
L. O. KOVEN & BRO. INC.

Largest tank manufacturers catering to motor boat trade

154 Ogden Ave., Jersey City, N. J.

Special fuel oil storage tank.

Special stern tank for fuel storage. Note the notch to fit around the rudder post.



Galvanized exhaust manifold, water cooled.

Water supply tank.

Special bow tank.

STEARNS-McKAY

STAYS CLEAN

MARBLEHEAD ANTI-FOULING GREEN BOTTOM PAINT

FOR STEEL OR WOOD

Used by the Finest Cruisers and Fastest Racers and by Merchant Vessels

THE BERMUDA and HALIFAX RACERS—THE WINNERS OF THE PALM BEACH, BLOCK ISLAND AND OTHER RACES were painted with MARBLEHEAD GREEN.

USED AND HIGHLY RECOMMENDED BY J. MURRAY WATTS, COX & STEVENS, JOHN G. ALDEN AND MANY OTHER FAMOUS NAVAL ARCHITECTS.

HIGHEST RECOMMENDATIONS BY THE SEASLED CO., LTD. GEORGE LAWLEY & SON CORPORATION HAS USED IT FOR YEARS WITH UNFAILING SATISFACTION.

MERCHANT VESSELS have adopted its use to an increasing extent on account of LONG SERVICE and ECONOMY.

It is THE MOST POWERFUL ANTI-FOULER and PREVENTIVE of MARINE GROWTH, BARNACLES and BORERS. In TROPICAL and SEMI-TROPICAL WATERS it has no equal as a PROTECTION against the DESTRUCTIVE TEREDOS.

ALL PUT UP DOUBLE STRENGTH

STEARNS-McKAY MFG. CO. Marblehead, Mass.

Cable Address, McKay, Marblehead

All First Class Dealers, Ship and Yacht Yards

25-Footer—22 Miles per hour

This 25' x 6' 1" double cockpit runabout was built from plans by John L. Hacker published in MoToR BoatinG. Accommodates 3 or 4 in forward cockpit, and 4 to 6 in aft cockpit. 22 miles per hour with a Scripps F-4.

Let us quote on your next boat, no matter what size or type. Complete boats or knock-down frames—always a good boat at the lowest practical cost.

RICHARDSON BOAT COMPANY

370 Sweeney Street, North Tonawanda, N. Y.

B. Schellenberg & Sons

EVERYTHING FOR THE PERSON OF THE YACHTSMAN, HIS OFFICERS AND HIS CREW

Clubs, yacht owners, commercial boat owners should take advantage of our almost 70 years' experience in outfitting the mariner, both inland and deep sea.

Crews and Club attendants furnished without Charge

B. SCHELLENBERG & SONS

Established in 1857

99 to 105 Myrtle Ave.

(Near Bridge St., Brooklyn, N. Y.

Telephone Cumberland 0804

Fog in the English Channel

(*Continued from page* 104)

the siren, dead ahead and nearer. But there was still no bottom at thirty fathoms and we knew by that sign that we were still ten miles from land.

At intervals then of thirty minutes' running and five minutes' listening we neared our goal, now altering course to eastward to change the bearing of the siren and thus judge our distance from the shore, and now bearing down on it to bring it nearer. Like Bermuda, Guernsey must be approached with circumspection.

If the siren on Platte Fougere, which lies about a mile from shore, had been in working order, we might have made St. Peter Port that night—or we might have piled up in the rocks of Little Russel Channel. But as conditions were, with the substitute siren howling from behind a nest of reefs, I didn't dare work in too closely. If luck was with us, the fog might lift and show us Platte Fougere. Thereafter we could steer compass courses and work down the channel to the harbor.

But a word is in order about Little Russel Channel. It is weird. The current rushes through it at the rate of five sea miles an hour, and disregards the prevailing laws which govern currents. Instead of being slack at low water, the southwestern stream is then at maximum velocity. Mariners usually take comfort in the thought that when the tide is low and the rocks are nearest the surface, there is no relentless stream to carry them into trouble. This comfort is denied them in Little Russel. And the tide rises and falls from 26 to 36 feet.

Moreover, the channel is so strewn with rocks surmounted with anchors, mannikins, barrels, crosses, and letters of the alphabet that the chart looks like a child's puzzle. But it is no child's play to piece the puzzle together in the fog.

At 8 p. m., with Adastra feeling her way through a blanket that momentarily threatened to close in to the tip of our bowsprit, we stopped and heard Doyle siren on a SSW bearing from us. In working around the upper end of the island we had failed to sight Platte Fougere, but I felt that we must now be midway of the entrance to Little Russel. For four solid hours P. L. had been at the tiller while Barkham looked into the enveloping fog and I scanned the chart and figured dead reckoning. P. L. had not made a murmur of complaint, but now that it was growing dark we both felt that it was about time we sighted something, no matter what.

Course was changed to run down the invisible channel and for two miles by the log we tiptoed along. And then, from Barkham, "Rocks fifty feet on the port bow, sir." We had had our wish.

The rocks looked like the Coast Pilot description of a group known as Tautenay. Throwing out the clutch, I dived below and searched the chart. Tautenay didn't look too terrible. There was deep water round about. The rocks faded from view and the current, the more deadly because it was unseen, got in its work. A course was laid to clear the next group of rocks, but in ten minutes they loomed alarmingly out of the mist, first to port, and then to starboard. We were in the middle of them, driving blindly on. Barkham sounded and informed me that we had only three fathoms under us.

So we came to the unanimous conclusion that we should anchor while there was yet time. The way that tide piled up on the upstream side of the rocks, and sucked away from the downstream side was not good for three weary strangers to behold. We were far from home, and the water was cold.

The depth increased abruptly and Barkham let go the light anchor in something under seven fathoms. In five minutes he felt it start to come home, sliding along a rock bottom, as the current tore at our hull. The bower was let go and given thirty fathoms of chain, and we held. It was now ten o'clock and it seemed advisable to eat scrambled eggs. P. L. did the honors while Barkham and I took soundings. There was no sand on the arming of the lead. That always means anchor watches.

And then to add insult to injury, the wind came to life and followed the current in from the open sea. I said to P. L., "*If* we had good holding ground, and *if* the wind weren't blowing from precisely that quarter, I should think we were pretty well fixed for the night."

P. L. laughed and said, "Oh, you and your ifs."

But I asked her whether it wasn't really better to have two anchors on the ground than be drifting back and forth between Guernsey and the terrible Casquets. Barkham remarked incidentally that everything would be all right *if* we could stand off from a lee shore by exactly the circuitous route that had happened to bring us safely through a dozen unknown reefs.

But we were not subjected to this final test of navigation. Before midnight the fog cleared and we sighted the lights of St. Peter Port. Platte Fougere showed up too, but instead of a flashing light it showed fixed white—which was something

(*Continued on page* 110)

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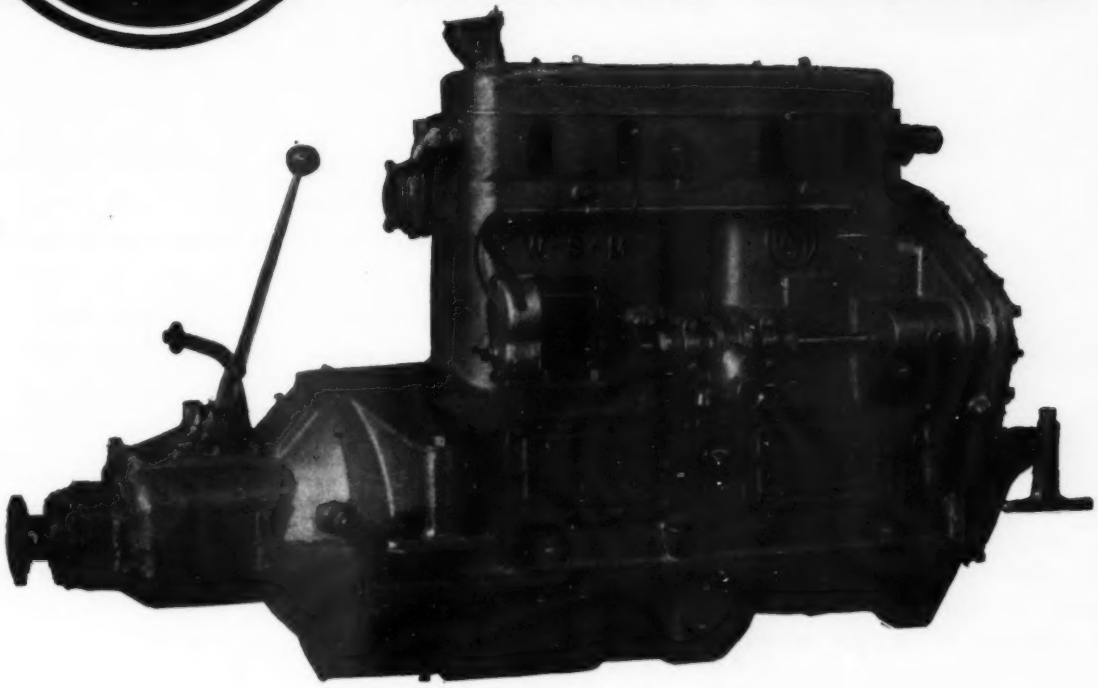
W-S-M

MARINE ENGINES



W — S — M

Renewable Cylinder Walls

Overhead Valves

Sliding Reverse Gear

Three Point Support

Medium Duty 1450 lbs.
28 H. P. at 800 R. P. M.
46 H. P. at 950 R. P. M.

High Speed Type, 1350 lbs.
48 H. P. at 1000 R. P. M.
60 H. P. at 1400 R. P. M.

ALL around service day-in and day-out finds the W-S-M ranking first. Its staunch construction embodying many unique innovations of engine design not only gives better power efficiency but also makes for economy in maintenance. For instance, every wearing part of the W-S-M is replaceable, even the cylinder walls.

If you would be known by your ability to judge marine engine value your boat would be W-S-M powered.

Bulletin "M-G" completely describes the W-S-M.
Write for it today.

WILBUR H. YOUNG, Sole Distributor (U. S. & Foreign)

Phone: Murray Hill 8160, 8161, 8136 **522 Fifth Avenue, New York City**

Manufactured by The Wellman-Seaver-Morgan Company

PALMER ENGINES
TRADE MARK REG. U.S. PAT. OFF.

Use a Palmer

The difference will surprise you

Palmers Are Popular

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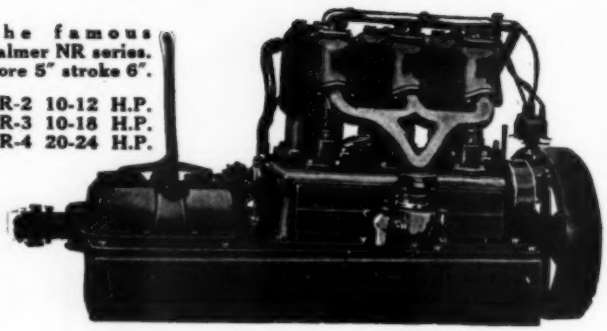
The famous Palmer NR series. Bore 5" stroke 6".

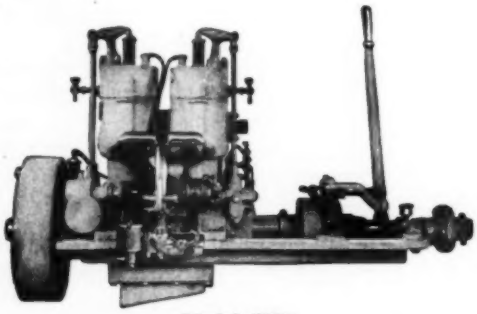
NR-2 10-12 H.P.
NR-3 10-18 H.P.
NR-4 20-24 H.P.



IT matters not whether your power requirement is for a light runabout or a commercial boat hauling a heavy cargo —there is a Palmer engine to meet it— and at a price you would feel justified in paying.

This organization has long been recognized as the producers of the largest and most complete line of marine engines on the market, including both four cycle and two cycle engines. Recently the Palmer YT-2 was introduced — the vast number of this model sold and the popular accord it received everywhere proves that Palmer principles are right.

A brute in a small package describes the YT-2. Individual cylinders with detachable heads. Combination splash and force feed oiling system. Counter balanced crankshaft. All bearings are bronze backed die cast and interchangeable. Ignition, high tension magneto, equipped with impulse coupling, assuring easy starting.



Model YT2
Price with reverse gear..... $240.00
Price without reverse gear..... 200.00

Palmer Engines are carefully designed and built to meet every marine requirement. 2 H. P. to 80 H. P., high speed, medium duty and heavy duty. There is usually a choice of two or three models from which to select a power plant to meet a particular need. And everyone is a proved success.

May we send you further particulars? Write today.

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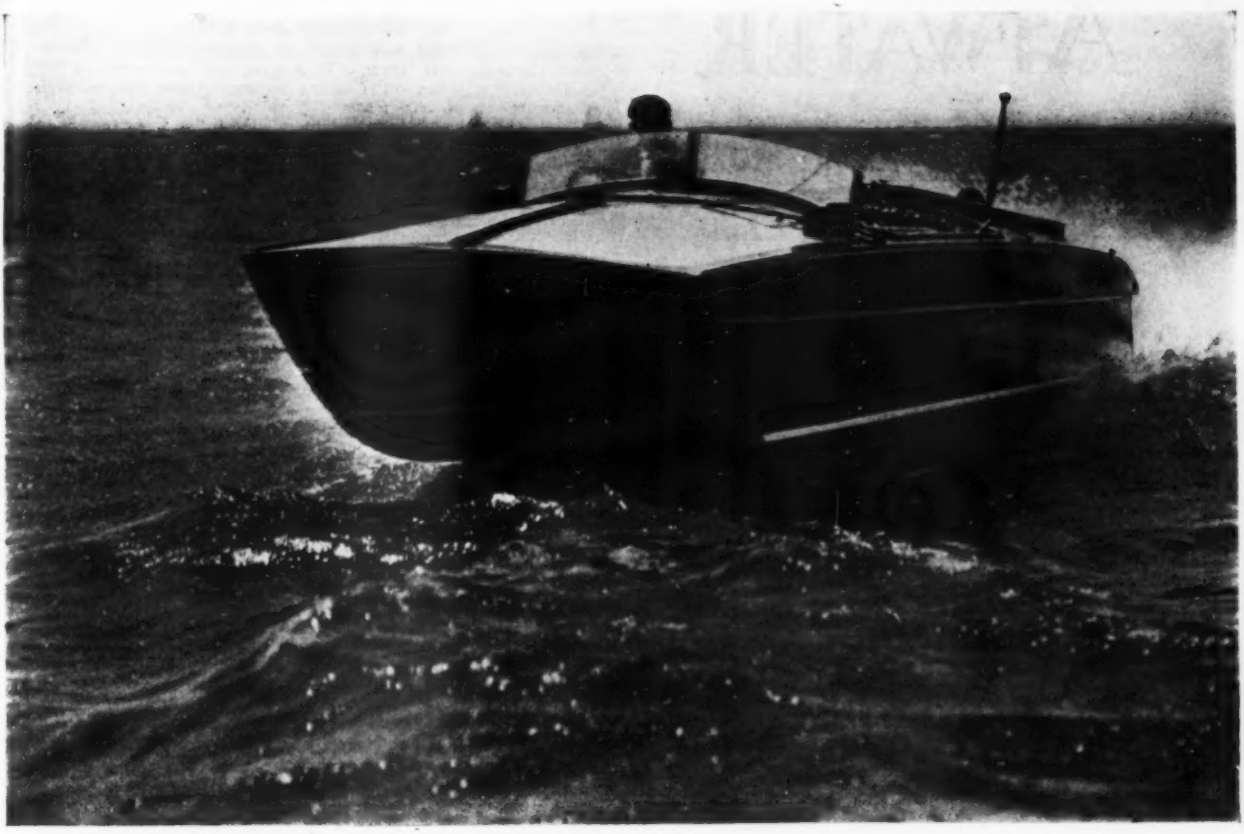
Vancouver, B. C., V. M. Dafoe.

Advertising Index will be found on page 138.



Standard 25 foot Sea Sled runabout at 38 m.p.h. in broken water.
Engine Hall-Scott 200 h.p.

FLORIDA

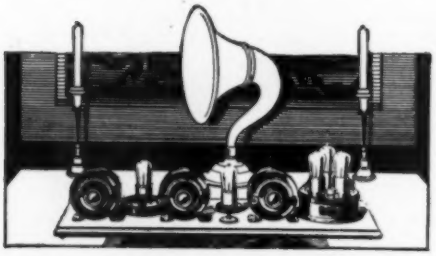
WHETHER for use off the coast or on shallow weed infested inland waters, the performance of Sea Sleds is unequalled. Their staunch construction, unique design and high bow insures seaworthiness, dryness and comfort. The single surface propeller, a strong simple mechanical arrangement, with the highest efficiency and shallowest draft. The 1924 Gold Cup races at Detroit was won by RAINBOW IV equipped with a single surface propeller.

Immediate deliveries. Write at once for literature describing the standard 25 and 22 foot Sea Sled runabouts.

THE SEA SLED COMPANY, Ltd., West Mystic, Conn.

New York Office: 41 Park Row. Telephone Cortland 1575
Canadian Licensees: Canadian Vickers, Ltd., Montreal
Licensees for Great Britain and the Continent of Europe: Swan, Hunter & Wigham Richardson, Ltd., 21 Russell Square, London, W. C. 1, England

ATWATER KENT
RADIO



YOU will find ATWATER KENT Radio combines every feature that means radio satisfaction—unusual selectivity, sensitiveness, distance, volume and tonal quality.

Its clear reception, and the ease with which you can bring in distant stations will be a revelation to you.

There is a price, size and style for everyone.

Instructive literature on request

ATWATER KENT MANUFACTURING COMPANY
4739 Wissahickon Ave., Philadelphia, Pa.

THINK OF WHAT IS BACK OF IT

YACHT REPAIRS

Just 3 miles from Inland Water Route is located the Plant of

BRUNSWICK MARINE CONSTRUCTION CORPORATION,

BRUNSWICK, GA.

Every facility for executing Yacht and Motor-Boat Repairs promptly and reasonably.

Enjoy Brunswick hospitality while work is in progress. Good hotels, golf, fishing and motoring.

Electric Searchlights
ARC OR INCANDESCENT

A Searchlight for any purpose. Arc Searchlights for 110 volts. Incandescent Searchlights for low voltage. In sizes from 7 inch to 60 inch. High efficiency. Moderate price. Special glass mirror. Sturdy cast bronze fittings.

Send for Latest Catalog

THE CARLISLE & FINCH COMPANY
261 East Clifton Avenue
CINCINNATI, OHIO

Fog in the English Channel

(*Continued from page* 106)

that the Coast Pilot had failed to mention when it told us about the substitute siren. That gave me another hour of perplexity, but when other lights became visible our position was identified.

By the luck that pursues amateur sailors we were precisely where I had told P. L. and Barkham that I thought we were, an embayed spot at the northwest end of Herm Island, marked on the chart by an anchor, which shows it to be a harbor of refuge. I shan't be so bold as to say that we had taken that anchorage by design, or that we were satisfied while we were in it.

Yet when daylight came again and Tautenay and other rocks showed up in their expected orientation, I had the thrill of satisfaction that repays one for all past anxieties. And when Barkham, who stood the final watch from four to six, roused P. L. and me and we got the anchors up, there was sand on the flukes, which showed that the holding ground had been good.

Guernsey, as it appeared to us, swinging in to St. Peter Port on another ebb tide, was a place of almost unparalleled sweetness and quaintness. Barkham, busy with the ground tackle, also cast an appreciative eye shoreward. He had not been there before and he approved of it. What he thought of a crazy American and his wife who didn't know enough to remain offshore in a fog will never be known. But we of the after crew were thoroughly glad that we had made the Channel crossing in the fog.

(*To be continued*)

The next months installment will relate the experience of Adastra in the Channel Isles. Unusual and powerful currents make navigation and boat handling difficult and the stranger in the treacherous water of the French coast will learn quickly that he must pay strict attention to the work in hand. The yawl Adastra is storm bound for several days but finally gets underway for Cherbourg, France. Read the entire story in January MoToR BoatinG.

Dick Wastcoat Declares

(*Continued from page* 21)

on my way in from that round of golf. I knew the Paragon Gear Works. Knew it well. Knew it as one of the nicest little businesses in Taunton. I speculated over what was wrong. When I was last in Taunton the plant was running full blast and I could not figure out why anyone would want to sell it. But I planned a line of attack. I determined to write to a couple of my old school chums and request them to give me all available information. They did—in a hurry. There was nothing wrong with the business, they said, and added that the management was just getting tired of the activity. I went to Taunton—lost no time getting there . . . and bought the business.

"I have laughed to myself about that since. When I graduated from college I thought that my own town afforded no opportunities at all. Through several years I 'had been trying to eat the grass in the other fellow's field when it was just as green in my own.'"

* * * * *

Wastcoat is a man who stands on formality not at all. I sat with him through several hours and of the dozens of persons who came to see him there were only three who addressed him as "Mr. Wastcoat." And they were very young. There are many men whose contact points are difficult to find; as you have been told, Wastcoat is not one of these. He wants to know you—wants to talk to you—wants to laugh with you. He makes you feel those things the moment you meet him.

He prefers to tilt back his chair and hoist his feet on a convenient table to sitting straight-backed, but that doesn't mean carelessness of nature in him. When displeased his feet can come off the table and the chair can bang down in a manner that leaves no question as to intentions, or fixed purpose. Tall—a blonde—athletic shoulders—clean shaven face—spectacles—a ready hand.

He doesn't like freaks—in business or in life.

"The men who stay in business—and this applies very thoroughly to the motor boating business—are the men who build standard things," he declares. "Freaks may have a flurry of prosperity but it never lasts. It cannot because the public, generally, soon tires of the things that do not really belong.

"Although my business is the gear business, it riles me whenever I hear of a boat builder making freaky stuff. I know, at once, that he is not only hurting his own business but is harming the boat business in general. What use is there for it? A freak is a curiosity and a curiosity belongs in a side show—not in the main tent. There is only one recipe that I know for success. (*Continued on page* 112)

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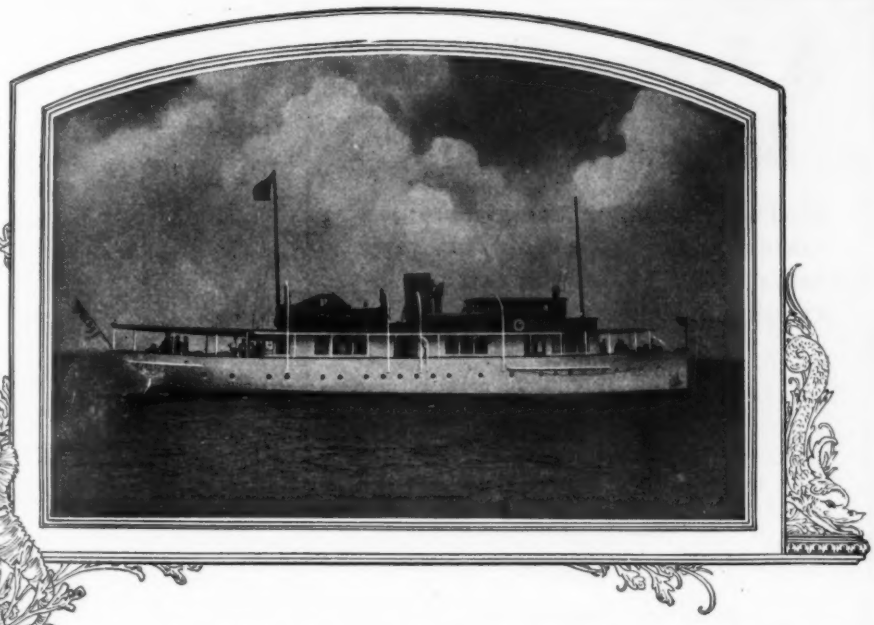
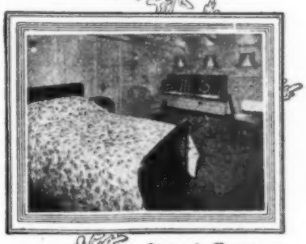


M. Y. CYNTHIA

DINING SALON



OWNER'S BEDROOM

TEBO YACHT BASIN

Offers Unusual Facilities

IN the care, reconditioning, repair and reconstruction of fine yachts, both large and small, Tebo Yacht Basin offers facilities that are unexcelled on either the Atlantic or Pacific seaboard.

Every phase of marine work, from important reconstruction to minor repair is carried on directly by this organization. Thus supervision is constant and under the rigid inspection of Tebo Engineers.

Many of the best known American Yachts come back to the Basin from year to year for winter storage and spring conditioning or repair.

Owners desiring information, concerning reconstruction or repair of the highest type of marine craftsmanship in the shortest possible time, will receive prompt attention from our marine engineers without obligation.

Shipbuilders and Repairers
Engineers
Boiler Makers
Parsons Turbines
Oil Burning Equipment
Diesel Engine Installations
Electric Drive Installations

TODD SHIPYARDS CORPORATION
Plant of Tebo Yacht Basin
Foot of 23d Street, Brooklyn, N. Y.

TODD
NEW YORK, U.S.A.

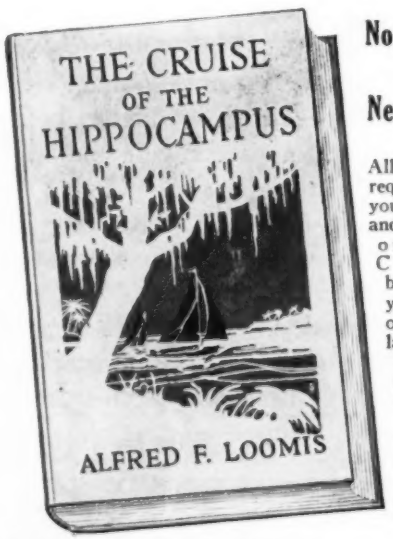
A Famous Cruising Book—as a Gift!

MoToR Boatmen everywhere are taking advantage of MoToR BoatinG's offer to send you the greatest cruising story ever written.

Get this delightful book that proves the exciting possibilities of small boat cruising as nothing before has ever done. Its famous author, Alfred F. Loomis, takes you on a 3,000-mile trip in a 28-foot yawl to all the points of interest on the Atlantic Coast, through the West Indies and across the Caribbean Sea to the Panama Canal.

Send for Yours Today!

This story will bring you the tang of the sea and thrills you anew with its buoyant spirit of adventure. The book sells for $2.00, but it is yours now for the asking. The regular price of a year's subscription to MoToR BoatinG is $3.00. Now for only $3.50 you may have both the magazine and the book!



No Money Is Necessary

All that is required is your name and address on the Coupon below. If you are on our regular list we will extend your subscription a year. But take advantage of this offer now!

MoToR BoatinG, Dept. 524,
119 West 40th St., New York City

Gentlemen: I desire to take advantage of the Special Offer of one year's subscription to MoToR BoatinG and "The Cruise of the Hippocampus" for only $3.50. Enclosed find $3.50 (or I will remit $3.50 on receipt of your bill).

Name .....

Address .....

City and State.....

(Foreign postage other than Canada, $1.00 extra per year)

Dick Wastcoat Declares

(*Continued from page* 110)

"That is—

"Build standard stuff; build the best you know how.

"I'll take a chance on that formula, any time."

Wastcoat was a captain in the state guards during the Boston police strike in 1919. Calvin Coolidge was governor of Massachusetts at that time and it was the police strike that put Coolidge, so Democratic politicians aver, in the White House.

Wastcoat saw Coolidge from the inside during that strike.

"The governor was on the job," he declared. "We got our orders straight from him and there was no fog in them. Imagine—a metropolitan city left without police protection . . . looting—murders—burglaries—riots—practically every form of law-breaking. We got our orders to get on the job, September 10. While I did not get overseas during the war I had done service in the coast guards but at no time did I see discipline, such as we had during those days of rioting in Boston.

"We had orders from the governor to suppress crime. If it was necessary to kill—well, we shot to kill. We mustered in every available man. We gave them their rifles and we fixed bayonets on the ends of the guns. It was a peculiar thing but I saw one of our men slam his way through a crowd of rioters, and disperse them without being compelled to injure anyone. I watched this episode in company with a state policeman and he turned to me afterwards—it was done in a hurry—and said:

"'Captain, they would have killed me had I gone in there—the bayonet scared them.'

"That state policeman was right. It wasn't that he was afraid to jump in—he simply did not have time, the thing happened so quickly.

"To me, that is how things are done in business.

"If your competitor sees the cold steel in your orders and knows you mean business you are quite likely to get it. Naturally, I don't think my competitors should be put out of business. I'm for competition—fair competition—all the time. It stimulates business. But this other competition—the unfair and the freak kind—let your would-be competitor understand that you are not frightened and it will be better for everyone.

"Perhaps I am rapping this freak stuff too hard. I think not. I am not opposed to advances—to new designs and so on—but there should be sound basis for them and not a slippery, sporadic public demand. That doesn't pay. If you make one freak you have to make another to stimulate a new market when the edge has been worn off the other idea. Better not start it at all and troubles will not come."

"What about your own business—haven't you had any 'ups and downs' at all?" he was asked.

"Not any more than come to the average going-ahead concern," he answered, earnestly. "I mean that. Just that way. Not that the thought is in my mind that I am entitled to credit but we always have had a pretty sound organization. I believe in that. We work together. No one man is for himself, alone. He is pulling for the other fellow first and himself, afterwards.

"We don't splurge beyond our means, at any time. Of course, there have been times when business has been tough to get. In those times we simply gave our belts an extra few jerks—and went to it. That's how, up in Taunton, we feel about the Paragon."

Marine Glue on Coast Guard Boats

There is nothing new or strange in the use of Jeffery's marine glue in deck seams of all types of craft, whether it be a small pleasure boat or the great Leviathan, where over 16,000 pounds of Jeffery's marine glue were used. There are times, however, when the features surrounding a particular installation justify special mention as appears in the case of the U. S. Coast Guard Patrol Boats.

Jeffery's marine glue was indorsed by the officials of the U. S. Coast Guard, the Committee on Purchases, and was the unqualified choice of the majority of the builders who finally received the contracts for construction. In addition to the use of Jeffery's marine glue in the deck seams, many of the builders have also used Jeffery's waterproof liquid glue C quality for laying and attaching canvas to house-tops and hatch-covers.

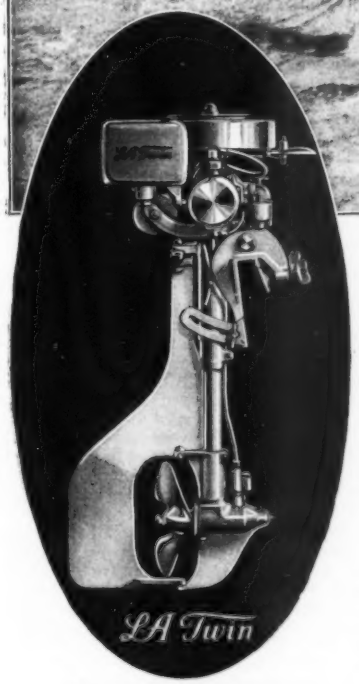
The contracts for these boats were placed in the principal boat yards on the Atlantic and Pacific Coasts, along the Gulf of Mexico, and the Great Lakes, and will constitute the most unique fleet that has ever been commissioned.

Not long ago a gasoline power boat was looked upon solely as a pleasure craft. However, in a short span of years it has found a place in the field of commercial craft and now is to be commissioned as a unit in our Nat onal Defense. We will look with pride and interest on the results.

Advertising Index will be found on page 138.

THIS SYMBOL IS YOUR GUARANTEE OF SATISFACTION

L-A



Propels your boat anywhere it will float

L-A Twin

A new achievement in outboard motors

ANY place your boat will float, in water ankle deep, over stones, sandbars, snags and deadheads, the L-A Twin will take you — without damage to your boat, without damage to your motor. Automatic tilting of friction type protects the back end of your boat. The patented L-A Slipping Clutch Propeller safeguards not only the propeller blades but the motor itself. The L-A Twin is ***absolute proof against al under-water obstacles.*** It literally opens new waters to outboard motoring.

The L-A Twin is the ***lightest outboard motor of its power.*** Weighs 52 lbs. complete, and develops 3 full H.P. A sturdy, reliable, ***practically vibrationless*** outboard motor — that in brief is the L-A Twin. Write for full particulars.

Special Features

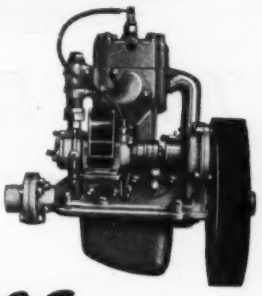
Most powerful magneto in outboard field; rope and rudder steering; indestructible gas tank; under-water parts made of non-corrosive Lynite; quiet exhaust; Alemite lubrication. The new L-A Twin is built for SERVICE — it upholds the Lockwood-Ash reputation for sturdiness and reliability — ***makes*** good because it ***is*** good.

LOCKWOOD-ASH DISTRIBUTORS

BROOKLYN, N. Y.: Hyde Boat & Engine Co., 356 Bergen St. at 4th Ave.; NEW ORLEANS, LA.: Arthur Duvic's Sons, 122 Chartres St.; PHILADELPHIA, PA.: Marine Engine Co. of Phila., Bourse Bldg.; SEATTLE, WASH.: Pacific Marine Engine Company, 906 Western Ave.; NORFOLK, VA.: Mianus Diesel Engine Co., 116 Boush St.; NEWPORT, ARK.: Henry M. Owen; FORT WORTH, TEX.: Veihl-Crawford Hardware Co.; JACKSONVILLE, FLA.: Burroughs-McMeekin Co., 30 E. Bay St.; MONTREAL, QUE., CAN.: F. I. Mitchell, 633 Notre Dame St. E.; ST. LOUIS, MO.: Wm. Grossmann, 1630 Pine St.; HARBINGER, N. C.: R. L. Gallop Hdw. Co.; PORTLAND, ME.: Mianus Motor Sales Co., 19 Custom House Wharf; LOS ANGELES, CAL.: V. L. Walker, 1635 Kenmore Ave. FACTORY REPRESENTATIVE FOR PACIFIC COAST: Gordon Snedeker, 1217 J. St., Sacramento, Cal. FOREIGN EXPORT OFFICE: 116 Broad St., New York, N. Y., Harold Fee, Mgr.

L-A INBOARD MOTORS

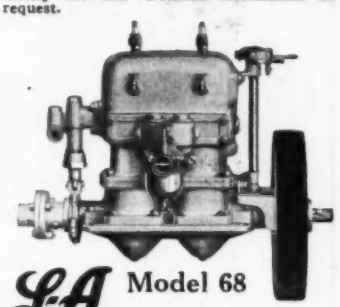
Backed by 21 years of conscientious building and reliable service



L-A Model 41

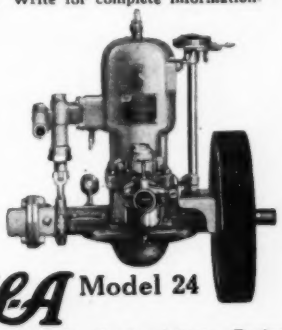
Ford Part Engine

Single cyl., 4 cyc., 5 H.P. Motor. Built around Ford sized parts—replacements anywhere. Has Bosch Magneto and Impulse Coupling as standard equipment. Battery ignition in place of magneto, if desired. Many desirable features. Weighs approximately 165 lbs. Detailed information on request.



L-A Model 68

6 and 8 H.P. 2 cyl.-2 cyc. Engines 6 H.P. for 15 ft. to 24 ft. craft. 8 H.P. for 20 ft. to 30 ft. craft. Equipped with battery ignition. Bosch Magneto and Impulse Coupling, if desired. Smooth running—easy starting—powerful—silent—clean—pleasing in appearance. Write for complete information.



L-A Model 24

2½ and 4 H.P. Single cyl.-2 cyc. Engines, 2½ H.P. for 14 ft. to 18 ft. craft. 4 H.P. for 16 ft. to 20 ft. craft. Equipped with Battery ignition. Bosch Magneto and Impulse Coupling, if desired. Simple—sturdy—easy starting—easily maintained. Ideal for inland lakes and rivers. Write for detailed description.

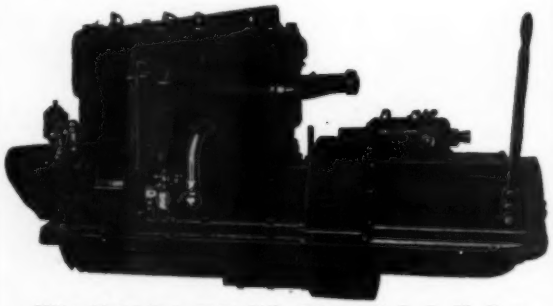
LOCKWOOD-ASH MOTOR COMPANY, 4112 JACKSON ST., JACKSON, MICH.

Builders of Marine Engines for 21 years

Miller
TRADE MARK REGISTERED

The Engine for Your Boat

IN the twenty years that Miller Motors have been on the market they penetrated to almost every country of the world. Their reliable service, excellent design, honest construction makes them exceedingly popular among pleasure boat owners, as well as for commercial craft.



Miller Model R-4, 28-35 H.P., 400 to 500 R. P. M. Bore 5¼", Stroke 7½". All enclosed unit power plant.

The best modern engineering principles are followed throughout construction of Miller Motors, there are many advanced features such as are used only on high priced marine engines. And, the Miller gives you all of these features at a distinctly popular price.

MILLER MODELS

SINGLE CYLINDER, MEDIUM DUTY
F-1, 4 H.P., 4½" x 5", wt., 410 lbs.
I-1, 6 H.P., 5¼" x 6", wt., 500 lbs.

TWO CYLINDER, MEDIUM DUTY
F-2, 10 H.P., 4½" x 6", wt., 625 lbs.
I-2, 14 H.P., 5¼" x 6½", wt., 800 lbs.

FOUR CYLINDER, MEDIUM DUTY
D-4, 6-14 H.P., 2¾" x 4", wt., 250 lbs.
E-4, 12-20 H.P., 3½" x 5", wt., 700 lbs.
F-4, 18-24 H.P., 4½" x 6", wt., 1300 lbs.
I-4, 24-30 H.P., 5¼" x 6", wt., 1600 lbs.

FOUR CYLINDER, HEAVY DUTY
R-4, 28-35 H.P., 5¼" x 7½", wt., 2000 lbs.
S-4, 40-50 H.P., 6" x 9", wt., 2800 lbs.

All models equipped with or without the successful Miller Kerosene Attachment

Write today for full particulars

MILLERS MOTOR CORPORATION
2333 N. Talman St., Chicago

New Racing Rules Adopted for 1925

(*Continued from page* 17)

(24) hours preceding a scheduled race the Contest Board is to meet and determine the eligibility of the entries under the rules.

(b) Such meetings are to be held in executive session; no public announcement shall be made regarding the discussion of the merits or demerits of any entry, nor shall any reason be given for accepting or rejecting an entry further than the announcement of the entries accepted.

(c) All questions shall be settled by a majority vote of those present.

(d) In case of a tie vote, and no decision has been rendered to the Race Committee by or before one hour of the advertised time for starting a race for said trophy, the Race Committee conducting the pending race shall accept all entries as qualifying under the rules.

(e) No protest of a boat or its owner will be considered after announcement of the acceptability of such entry by the Contest Board, nor in case such Board fails to report within one hour before the race is to be run.

(f) No protest regarding the qualifications of a boat will be considered by any official, Committee or Commission, unless the protest has first been presented to and acted upon by said Contest Board, whose decision shall be final, whether or not to protest.

(g) Not later than twenty-four (24) hours preceding the Annual Meeting of this Association, the Contest Board shall meet to consider changes in the rules governing the design, construction and equipment of boats and motors, also the management of races of said boats for the Gold Cup.

(h) Said Board shall render a report in writing to the Council of this Association, which in turn shall submit same with its recommendations for adoption by the delegates. This report is to be signed by all those constituting a majority of said Board who are in agreement with its recommendations. Those not in agreement may render a minority report, which will be presented in the same manner as the majority report.

(i) No amendment to the rules governing the Gold Cup shall be made after 1924 without first having been presented to the Contest Board for consideration.

(j) Nothing hereinabove shall be construed to mean that the Contest Board is to have any authority over the conduct of a race, or that it is to consider or pass on protests arising from infractions of the rules of the road or the general racing rules.

The present rules provide that the Gold Cup race can only be held between May 30 and October 1. Inasmuch as the motor boat racing season is now extended through the entire year, and the fact that a challenge has been received from a southern club for the Gold Cup (if they win it they will probably want to hold the next Gold Cup race in the winter in Florida) it seemed best to suggest a change, cutting out the limits between May 30 and October 1 and making it possible to hold the Gold Cup any time during the year. Therefore the rule was changed to read as follows:

The club holding the cup shall defend it against all challenges under the conditions as set forth in this instrument, provided, however, that should the club holding the trophy not have received four entries for a scheduled match for the trophy at least three months in advance of the date set for said match, they may elect to cancel said match in which case the club shall continue to hold the trophy. Provided further, that should a club holding the trophy not care to hold a match for same, they must advise the Racing Commission three months after receipt of Trophy in which case the Racing Commission of the American Power Boat Association shall give over the holding of the next match to the club whose boat finished next behind. In case this club shall not care to hold a match for said trophy, provisions of Article VII shall be followed."

This rule also includes a new provision that if the winner of the trophy does not care to hold a contest for the trophy, that the club of the boat finishing second place shall be given the privilege of holding the race.

Page 102, Article XII, provides that the trophy shall be awarded for one year to the club of which the owner of the winning boat is a member. It doesn't provide what shall happen if there is no contest. This was changed to read:

"Trophy shall be awarded until one month previous to the date scheduled for the next contest, to the club to which the owner of the winning boat is a member." In other words, the club keeps it until one month previous to the next scheduled event.

Page 102, Article XVI, Paragraph 2, of the present rules provides that the course must be laid out in water not less than two fathoms in depth. With the present boats as they are, it is not necessary to have water two fathoms deep, and some places where the races may be held, it is not that deep. The depth limit was made 8 feet.

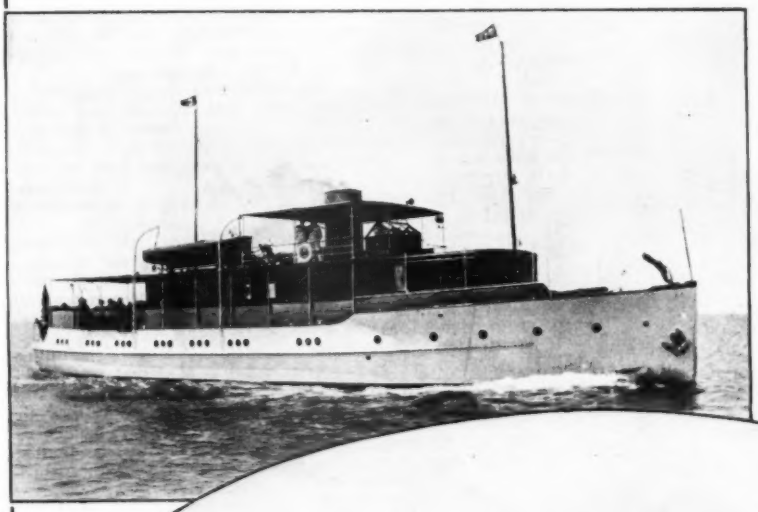
(*Continued on page* 116)

Advertising Index will be found on page 138.

Steel or Wood Construction

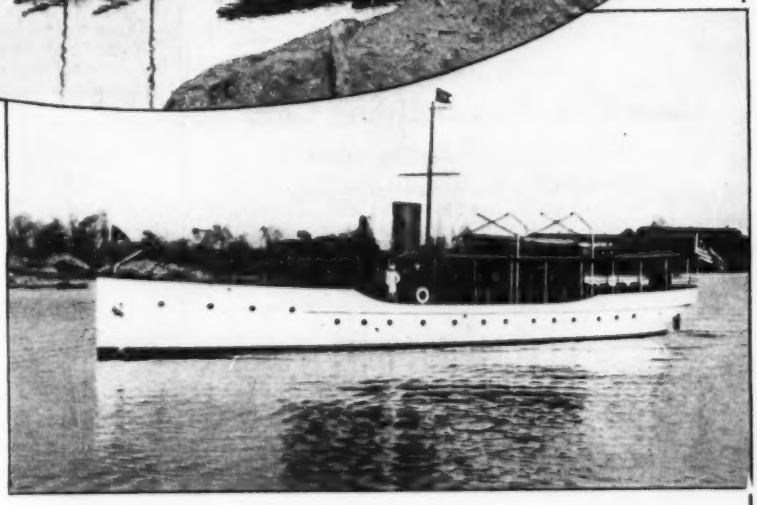
YACHTS

Finest of Yacht Workmanship



Reomar III, built for R. E. Olds. Power—Twin Mianus 120 H. P. Diesels

Our plant and yacht basin with a fleet of Defoe-built boats



Windsor II, built for G. W. Megeath. Power — One Bessemer-Atlas 140 H. P. Diesel

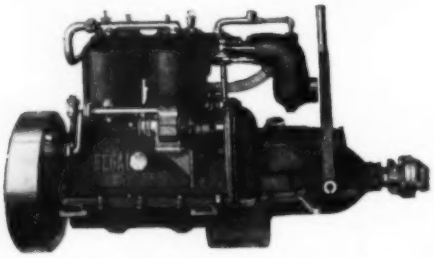
DEFOE BOAT & MOTOR WORKS

JEFFERSON ST. *BAY CITY, MICH., U. S. A.*

REGAL ENGINES

Give Royal Performance

Endurance far exceeding ordinary marine requirements is the standard to which Regals are built. And, for over twenty-four years boatmen have known of no better, sturdier or more reliable engine at anywhere near Regal prices.



8 H.P. Model "NB". Weight 530 pounds
Price with Magneto Ignition.....$450.00

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CHAMPION

Dependable for Every Engine

New Racing Rules Adopted for 1925

(*Continued from page* 114)

Page 105, Paragraph 13 reads: "No postponements from the advertised time of start of the race shall be allowed for any cause." To this was added, "Except in the interests of public safety."

Page 105, to Paragraph 14 was added: "And be equipped with an efficient self-starter of a type capable of turning over motor. Permission to start by other means may be obtained from the Race Committee." The present rules do not require self-starters on the Gold Cup boats. The new does.

Page 104, Paragraph 12, was changed to read as follows: "Competing boats must be fitted with at least one water-tight compartment in bow extending approximately five feet aft from stem, have the motor compartment entirely closed in, and have seating accommodations for at least four persons. Hatch covers must remain closed while the boat is under way, except when momentarily opened for inspection or necessary adjustment of the motor."

In other words, the provision for two water-tight bulkheads, which are always questionable, was cut out and the provision put in that the boat be fitted with one water-tight compartment. It could have water-tight bulkheads before without water-tight compartments. The new rule provides for a water-tight compartment rather than water-tight bulkheads.

Page 104, Paragraph 7, the present rules provide that three bailers are allowed. It has been demonstrated that air underneath a boat through these bailers helps and somebody has very correctly suggested that it is cheaper to run boats on air than gasoline. It was voted that only six bilge bailers or breathers will be permitted and each of them must be limited to not more than four square inches opening inside the orifice and not over five inches in any outside dimension.

Page 104, Paragraph 7, the sentence "Clinker-built hulls are acceptable provided the laps of the planking do not project more than one inch where one plank overlaps another," was stricken from the rules.

Page 104, Paragraph 7, the last sentence contains a clause providing that boats must finish with full equipment on board which they started with. It has been changed, as follows: "Boats must finish with full structural and other equipment required by the rules that she started with, except fuel and oil. Should anything fall overboard, same must be retrieved from water or replaced at pits on next lap after detection by crew or flag from judges, otherwise the boat will be subject to disqualification or loss of laps run after detection or being flagged. In case of damage or loss due to collision with fouling boat in the race or hitting a floating or submerged object, the boat may continue in the race without repairs or replacements at the discretion of the owner and the judges, provided injured boat has not violated rules."

Page 104, Paragraph 7, the following sentence was added: "Boats built with the so-called overhang stern must be so constructed that no part of the overhang proper (excepting rudder, etc.) comes nearer than one inch to the surface of the water when the boat is at rest in still water in racing trim."

Page 104, Paragraph 11 was changed to read as follows: "Competing boats must exhaust at or near the stern or stern transom above water when under way."

At the present time the division of boats is as follows:

Div. 1—Cruisers
Div. 2—Express Cruisers
Div. 3—Speed Cruisers
Div. 4—Open Boats
Div. 5—Displacement Racers
Div. 6—Hydroplanes

What is a cruiser? causes about as much discussion as what is a marine engine? In the past cruisers having a speed of 7 and 8 miles an hour have raced with cruisers having 17 and 18 miles an hour. It is quite evident that it is impossible to handicap these boats when the range of speed is so far apart. Therefore the rules were so changed that the cruiser class be divided up into several sub-divisions and that in rating, the determining factor as to which class a cruiser will fall in shall be the speed the boat makes in a race.

The new classes are as follows:

Div. 1—Cruisers
Div. 2—Fast Cruisers
Div. 3—Speed Cruisers
Div. 4—Express Cruisers
Div. 5—Super-Express Cruisers
Div. 6—Open Boats
Div. 7—Displacement Racers
Div. 8—Hydroplanes

A cruiser is any boat that shows a speed of 8½ knots in a race (or less). The next class up is Fast Cruisers. A Fast Cruiser is a cruiser except that she shows a speed of between

(*Continued on page* 122)

Advertising Index will be found on page 138.

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What More Could One Wish For?

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30 ft. Standardized Cruiser

A MOST attractive boat of remarkable speed, that is easy to handle and economical to run. It is a he man's boat, staunch and seaworthy. The accommodations for comfort are complete and have all the refinements a man wants and the niceties a lady admires. It is the desirable boat for fishing and all around use.

The soundest boat building principles are followed in its construction, white cedar planking, copper fastened; oak frames, mahogany trim. The engine is *not* in the cabin, an uncommon feature in thirty-foot boats.

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PARTIAL LIST OF CONTENTS

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Water Routes, New York to Chicago and Duluth, including New York State Canals, sailing directories on the Great Lakes
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What to do in a storm, use of oil
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Barometer, weather signs, signal stations, etc.
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Advertising Index will be found on page 138.

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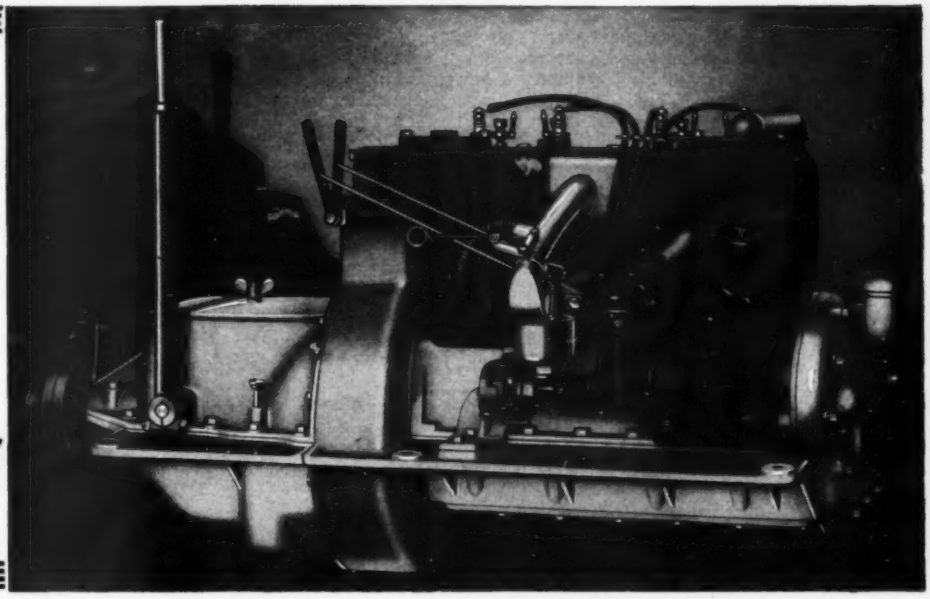
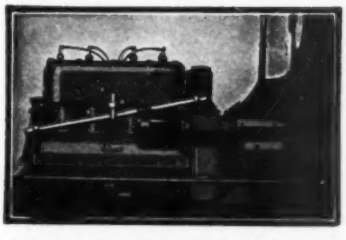
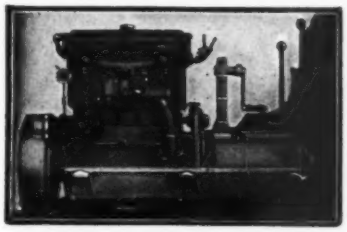


Men who know tell us frankly that the new Gray Model "Z" is the best engineered Marine Motor of its size ever offered. 30 years of Marine Motor experience concentrates its best and newest ideas into Model "Z", shortest and lightest motor in its class. This is a 14 H. P. to 20 H. P., 4 cylinder, 4 cycle motor priced at $395 complete and ready to run, including electric starting, lighting and ignition, instrument panel, and is being shipped promptly on receipt of order. Standardized by leading Boat Builders in stock boats. $395 as shown.



Starter side, (Starboard) Model "Z", length 41-½ over all. 62% of entire surface is salt water resisting aluminum. Greatest depth below base 6-¾", height 14-½". 395 pounds complete. For boats up to 30 feet.



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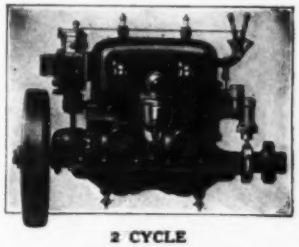
The company Gray Motors keep is shown by recent shipments to:—U. S. A. War Department, Kansas City; Department of Commerce Lighthouse Division, Great Lakes; Chamber of Commerce, Balboa, Spain, Gray's chosen in competitive test for economy, used in Sardine Fleet; City of Omaha, City Engineer selects Gray for Metropolitan Service; Michigan Naval Militia for Lieutenant Commander's gig; Ohio Naval Militia for Lieutenant Commander's gig. Write for our new list of prominent users, and our new 1925 "Bargain List" of used motors.



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See list of contents and description of Yachtsman's Guide elsewhere in this issue.

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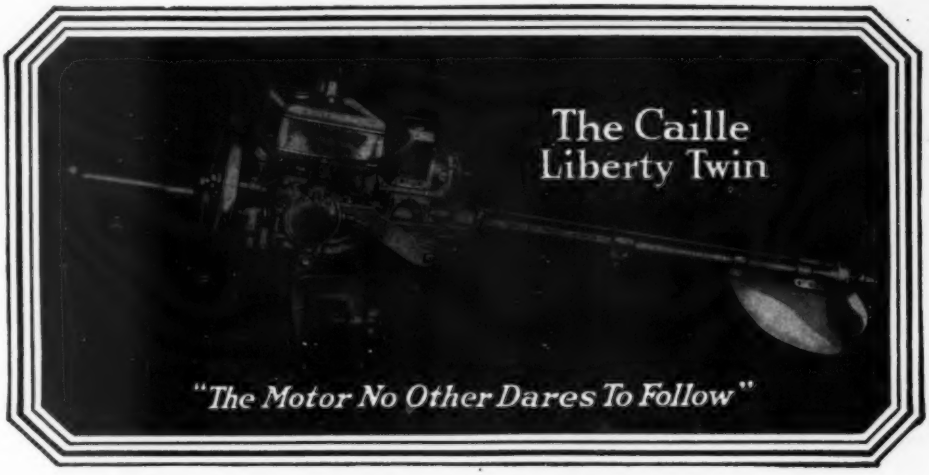

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Built on the same principle as the Liberty Twin, but with only one cylinder. Just the motor for those wanting a high-grade motor at a moderate price.

Only $85.00

When you buy a rowboat motor, get one that will take you anywhere you want to go — a Caille Liberty Twin. It is the *only* rowboat motor that will drive *any* rowboat *any place* it will *float*.

The Caille Liberty Twin is the only motor with the direct drive principle and actual tilting — permitting propeller to easily tilt over any and all obstructions.

You can smash into hidden, half sunken boulders, dead heads, snags, shallow bottoms, etc. The sturdy skeg strikes only a glancing blow without a jolt and gently rides over them.

Equipped with Bosch magneto and special Zenith adjustable jet carburetor.

Easy starting in cold weather — equipped with rope starter and can also be started by hand. Improved light weight and vibrationless motor. Rugged and dependable — the all-purpose motor.

The choice of thousands of sportsmen and boat owners — because the Liberty will do more than any other — ask the man who owns one.

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Operates on 6 volt storage battery, using 30 candle-power nitrogen bulb. Projects the most powerful beam known for a light of its size. Indispensable for spotting buoys, landings, piers and anchorages as well as avoiding driftwood and rocks.

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Prices.....$8.00 to $15.00

Sold by the best dealers everywhere. Write for Catalog No. 17

CHAS. KAUFMAN & SONS, Inc.
Santa Ana, California

New Racing Rules Adopted

(*Continued from page* 116)

8½ knots and 12 knots in a race.

The next step is the Speed Cruiser, and she is a cruiser which goes between 12 and 16 knots. That really means that our old cruiser definition, which went up to about 16 knots, is divided into these three new classes of cruisers.

The next class is the Express Cruiser, which is a boat which shows a speed in a race between 16 and 22 knots. The Super-Express Cruiser is the one showing a speed of over 22 knots in a race. All of these are over the bottom and not through the water.

In the old Express Cruiser and Speed Cruiser formula, a horse-power formula was used. Under the new division of boats, the same formula for handicapping all classes of cruisers is employed.

In any race, the local race committee may use either of the following methods of dividing the boats into classes:

(A) Divide the contesting boats into classes in advance of the race, using the owner's statement of the boat's speed or any other available data at the committee's discretion. If this method is used, a boat which exceeds the maximum speed limit for her class shall be disqualified from that race. Boats whose speed falls below the minimum speed requirement for her class shall still be considered racing in the class in which she started, and shall not be entitled to qualify in the next slower class.

(B) The speeds made in the particular race in which the boats are participating shall be used to determine in which class or division each boat will be considered as competing.

At the present time, to obtain the midship section of a boat, the waterline beam is divided into five equal parts for round bottom boats and into four equal parts for the V-bottom boats. We drop a perpendicular down from the one-fifth or one-fourth point and get the depth C at that point.

A few years ago it was desirable to use a different point—a quarter beam and fifth beam for V-bottom boats and round bottom boats. Today the boats are approaching one another more or less in form and it seems best to do away with having the two measurements and adopt one which will fit both the V-bottom and round bottom type. But we find on making an analysis of the sections, of a large number of boats in existence, that we can't determine on one point to obtain this draft and in addition to that we find that when we do measure at one point, the quarter or the fifth, or both of them, it does work a hardship on a great many boats in existence. The deep boats of which there are a large number, are penalized, or the shallow boat is penalized. Only the boat built for the rules gets the full benefit of the section at the one-fifth or one-fourth point.

Therefore instead of taking the depth at the one-fifth or one-fourth point, as the case may be, that for all boats, the new rules provide that we measure the depth at one-eighth point and the three-eighths point, and take the average of the two as the depth. We come nearer, actually, to a measurement, at two points and averaging them, than we do with the one point.

Page 86, Section 3 was changed to read as follows:

"Divide B into 8 equal parts or stations, and at the first (⅛) and third (⅜) inboard stations from either end, measure perpendicularly from the water surface down to the under side of the boat's planking ($C_1 + C_2$).

"Then $\frac{C_1 + C_2}{2} \times$ Beam will give the midship section."

The old rating formula used in handicap races was as follows:

$$\text{Rating} = \frac{2 \times \text{area of one piston} \times \text{number of cylinders}}{\text{Area of midship section}} + 25$$

This was changed to read as follows:

$$\text{Rating} = \frac{2 \times \text{area of one piston} \times \text{number of cylinders}}{\text{Area of midship section}} + 22$$

The Deed of Gift governing the Handicap Cruiser Championship was changed to make the race open to boats which fall into the new classifications of Cruisers and Fast Cruisers.

Barteau Boat Works are Busy

On White Lake at Montague, Mich., the Barteau Boat Works have established an expensive plant for the building of boats, and now have in hand the construction for seven 18-foot runabouts, to be powered with engines of 200 h.p. These will be known as the White Lake one designed class, and it is expected that they will do at least 50 m.p.h. In addition, this company maintains railways, fuel stations, derricks, and plenty of parking space. They operate a boat livery, which includes canoes, rowboats, Johnson motors and floats.

Advertising Index will be found on page 138.

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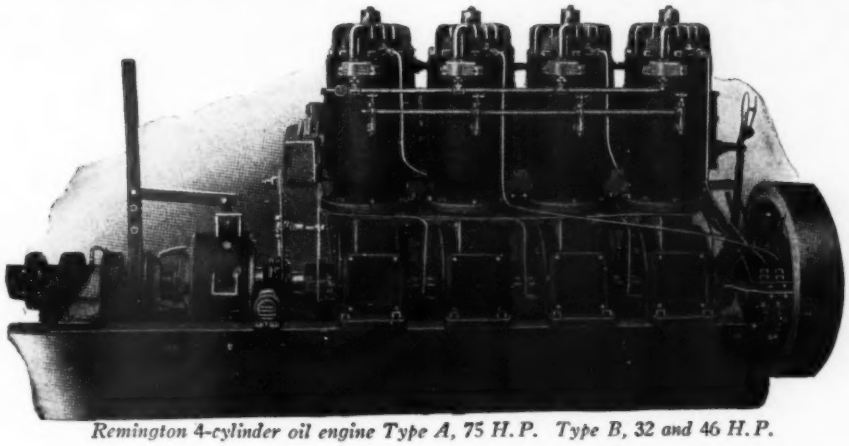
Successfully Used Since 1905



Remington 4-cylinder oil engine Type A, 75 H.P. Type B, 32 and 46 H.P.

The Remington powered motor ship "Solis" of Venezuela, S. A. This 120-foot heavy built commercial boat has been in constant service for the last eight years.

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As small as 3½ H.P.—as large as 400 H.P.

THE REMINGTON, a unit oil engine built in many sizes, is most economical for either main or auxiliary power. It is our belief that the care exercised in the manufacture of the Remington is not equalled in any other oil engine.

Remingtons were first built for industrial service and more than proved their worth as money makers in this field, where everything is reckoned in cold dollars and cents.

The extremest simplicity marks their construction, no chains, gears, cams, poppett valves or electrical apparatus are used.

Their quiet and smooth performance is refreshing to the most critical and experienced engineer.

The following letter is typical of what all Remington users say:

DEPARTMENT OF COMMERCE, LIGHTHOUSE SERVICE
Fifth District
Light Vessel No. 52
November 6th, 1924

The Remington Oil Engine Co., Keyport, N. J.

Dear Sirs:

In reply to your letter of October 30th, 1924 relating to the Remington Oil Engine No. 10 C 2 24 H.P. wherein you ask when this engine was installed, it was installed in Light Vessel No. 52 on February 10th, 1911 at Baltimore, Md. and has been in use ever since. I have been in charge of it all this time and can say it has given extra good service and is in serviceable condition at this date. I can recommend the Remington Oil Engine to be an extra good engine.

I would be pleased to have a parts catalogue for this engine.

Respectfully,
Signed—C. H. Johnson,
Engineer Light Vessel No. 52, Lewes, Delaware.

REMINGTON OIL ENGINES

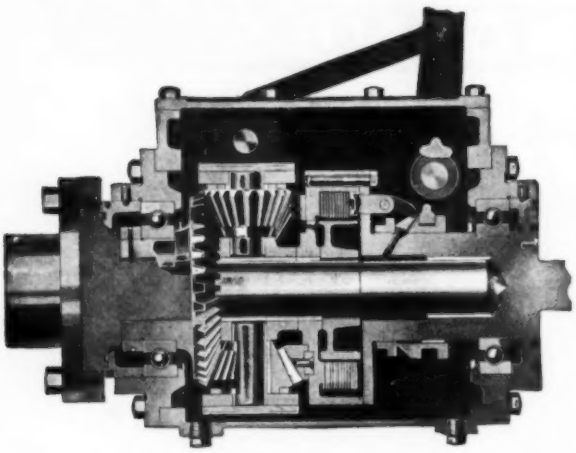
are without parallel in simplicity

Write today for complete information and catalog.

THE REMINGTON OIL ENGINE, Inc.

KEYPORT, NEW JERSEY

McKINNON REVERSE GEAR



YOU don't have to look a second time at the cross section illustration of the McKinnon Reverse Gear to know that it is designed to withstand years of the toughest service at either high or low speed and without trouble or attention.

Hess-Bright Ball Bearings
Enclosed—runs in oil
Multiple disc clutch
Big, quiet-running gears
Direct drive forward
Full speed on reverse

Write today for prices

The McKinnon Iron Works Co., Ashtabula, Ohio

NO CAULKING OR SEAM FILLING

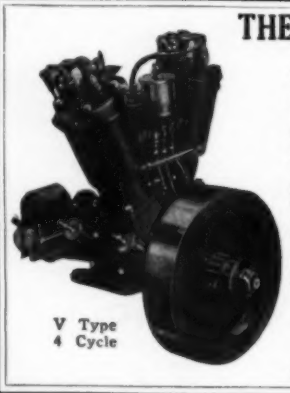
for ten years if you use

ELASTIC SEAM COMPOSITION TRADE MARK

Used by the Government and by most steamship and Yacht Builders and by Amateur Builders:
Write today for catalog of
Elastic Seam Composition, Elastic Trowel Cement, and Elastic White Yacht Paints.

H.B. FRED KUHLS 65th St & 3rd Ave. BROOKLYN N.Y.

THE "BARBER TWIN"



V Type
4 Cycle

The most powerful, light weight and compact marine motor of its size on the market. All the smooth power, quick acceleration and fuel economy of two cylinders in the space occupied by a single cylinder engine of half the power.

The "Barber Twin" is a high grade job with overhead valves, distribution coil and batteries, reliable lubrication, hot spot manifold and aluminum base.

8 H.P., Bore 3½" Stroke 5" Weight 150 lbs. Ideal power for tenders, auxiliaries, fish boats, etc.

Write today for prices.

KING BROTHERS
500 East Water St.,
Syracuse, N. Y.
Successor to BARBER BROS.

The Starboard Watch

(*Continued from page 53*)

One of the few outstanding innovations among this year's automobiles is the use of indestructible body finishes. Why not these same finishes for motor boats? In fact, they are being experimented with now and, if successful, will save dollars and innumerable hours' use of their boats.

If Rip Van Winkle woke up today after a thirteen year nap he would think we were a backward people and had made little progress during his sojourn with Morpheus. He'd still find us asking "What is a hydroplane?" Why don't we put this question up to the man who invented it, William H. Fauber? He'd give us a very comprehensive answer, in fact very comprehensive, indeed. Bill would probably say that a splinter on the bottom of a boat made her a hydroplane.

That was a most enjoyable dinner at the Columbia Yacht Club on October 22, the occasion being the presentation of the Columbia Challenge Cup to Caleb Bragg who won it at Detroit last August with his Baby Bootlegger.

Commodore Gus Schantz of Detroit Yacht Club was most complimentary to the winner and the swift little boat he drove.

Count de Longville, Commodore of the Bordeaux, France, Yacht Club, made some graceful remarks that were much appreciated, and our own Commodore Chapman presided as toastmaster in his usual efficient manner.

Eddy Edenburn treated the Club with some movies of various motorboat races held at Detroit.

Statistics compiled by various agencies show that somewhere between fourteen thousand and seventeen thousand people were killed in the past year in automobile accidents and while there are some fifteen or sixteen million trucks and motor cars in the country, each carrying the average of three and one half passenger, or in round figures fifty million people, this percentage is small. However, when the accident to the steamship Boston occurred off Block Island last summer and four people were killed with seventeen others injured, this accident was reported in most of the Eastern newspapers with headlines across the front pages and columns of speculation and stories from individual passengers were printed. All of this is of course perfectly proper and within the province of newspaper activities; but, when one turned to one of the very last pages of the same paper giving the news of the Boston wreck and found, as I did, a half column detailing in seven or eight paragraphs the fact that seven people were killed and twenty-two severely injured by motorcar accidents occurring within the Metropolitan District within the same day—the mental comment was obviously that deaths and accidents at sea are so rare as to constitute a sensation, while those occurring from accidents on the road were expected and thus lose their sensational news value. In motorboat racing only one death has been reported in the past 5 years and that did not occur during the actual race but was caused by the extreme carelessness or ignorance on the part of one individual, and that, after the race had been finished; whereas not a season has passed without a large number of deaths having been reported on the motor speedways. In fact, not less than five of the most prominent of the world's auto race drivers have been killed within the past two months, three of these occurring within one week. All of this emphasizes the fact that boating is a comparatively safe sport to indulge in.

In its hunt for liquor smugglers the Coast Guard is vigorously searching many pleasure boats. A friend of mine who has a 50 foot 24-mile cruiser which he uses for a ferry from his home to his place of business has had his boat stopped and searched a number of times this summer. (I may state that each time no violation of the law was discovered.) The Coast Guard ruling is that if a boat be searched and even one ounce of liquor found on board the vessel it is subject to seizure and fine. If you are halted, stop at once, as the Coast Guard vessels are well supplied with machine guns and ammunition and the crews have instructions to use them. All the Coast Guard boats, however, fly the distinctive flag, and every man of the crew is in uniform. Thus is more of the joy taken out of life in the land of the free and the home of the brave.

Shoal Water Craft In Canada

Frank Roby, President of the Talmadge Mfg. Co., of Cleveland, Ohio, is well pleased with his new especially designed shoal water craft that he is using this fall on the Georgian Bay. The craft is a very excellent 28-footer, with a 7 feet beam, drawing only a very few inches of water, making it possible to fish and hunt in waterways that heretofore have been inaccessible.

Designed and built by J. Morris, jr., of Hamilton and powered with a 20-25 h.p. Kermath, equipped with electric starting and lighting system, the whole outfit is an exceptionally well equipped general utility craft.

Advertising Index will be found on page 138.

WRIGHT TYPHOON MARINE ENGINE

THE remarkable performances of the Marine Engines built by this Organization presage their being the outstanding feature of the 1925 season.

It is suggested that private owners seeking superlative service make immediate inquiry concerning specifications, deliveries and other details.

WRIGHT AERONAUTICAL CORPORATION

Richard F. Hoyt's "TEASER" designed by George F. Crouch, built by Henry B. Nevins, New York, and powered with a Wright Typhoon Engine, Unquestionably one of the fastest boats in the world.

Wright Typhoon Marine Engine. 12 cylinder, 60 degree V Type, 600 H. P. Bore 5.75 in., stroke, 6.25 in. 1947 cu. in. cylinder displacement, weight of engine alone 1160 lbs. Weight of reverse gear 700 lbs., complete weight 1860 lbs. 600 H. P. at 2100 R. P. M., 550 H. P. at 1900 R. P. M. Available for immediate delivery

WRIGHT ◇ AERONAUTICAL ◇ CORPORATION, *Paterson, New Jersey, U.S.A.*

A Dependable Pump

MAKE sure that your engine is equipped with an Oberdorfer Bronze Pump if you want to be positive that your circulating system is right. Trouble proof — wear proof — corrosion proof.

Send for FREE Book

M. L. Oberdorfer Brass Company, Syracuse, New York

Oberdorfer Pumps

Made of Bronze throughout

RAJAH SPARK PLUGS

It takes more than an exceptionally good plug to stand up in hard marine service.

That is why Rajah is the unrivaled spark plug for marine use.

For unprotected engines in open boats use Rajah Waterproof type plug — the only successful waterproof plug designed.

Rajah Auto Supply Co.

Bloomfield, New Jersey, U. S. A.

Leading Marine Dealers carry Rajah Spark Plugs and Terminals.

Light with REGALITE

A Complete Independent Electric Lighting Plant

This is the ideal lighting plant for yachts, takes little room and supplies ample current to light forty-five 20 watt lamps. REGALITE has the same high standard of engineering principles that have made Regal Marine Engines famous the world over for twenty-three years. An air cooled 2 H.P. engine connects direct to ¼ KW generator, no belts; armature is keyed on engine shaft. No water tank or separate gasoline tank required. Shipped complete with 16 cell storage battery. *Write for full information and prices.*

REGAL GASOLINE ENGINE COMPANY

Manufacturers of Regal Marine Engines.

74-82 W. Pearl Street Coldwater, Michigan

Standardized Runabouts

Outboard boats, row boats and canoes. A high grade product backed by over a quarter century in boat building. Send for illustrated catalog. Box M.

RACINE BOAT COMPANY

RACINE - - - WISCONSIN

Elcarujo, A Clever Outboard Cruiser

(*Continued from page* 45)

The floor beams will be ⅞ by 2 inch spruce set on 9 inch centers and the flooring ½ inch hard pine.

Deck carlins will be spaced the same as the frames and made of ⅞ by 2 inch yellow pine. The crown for making these is given in the table of offsets. The fastenings in the deck will be galvanized iron nails. Decking should be ½ by 2 inch tongue and groove white pine or some other equally light weight wood and covered with 10 oz. duck. Where the duck turns down the corner of the deck edge it will be covered with ⅞ inch half round oak moulding screw fastened to the top strake.

Hatches, slides, monkey rails, and all deck joiner work will be white oak or yellow pine, and finished with three coats of varnish. The cockpit flooring will be similar to that laid in the cabin, but will be covered with 10 oz. duck.

All the deck and interior hardware should be galvanized iron. The woodwork inside is to be plain and painted white. There will be lockers under the bunks and a 20-gallon water tank forward as shown. Under the sink, room will be found for a small ice chest, while over this there will be shelves for dishes. There will also be lockers under the seat in the cockpit.

The interior woodwork should be done with ½ inch pine or cedar for it must be light in weight. The awning over the cockpit will not have full headroom, nor should this be expected. The bows should be made of ¾ inch pipe and the battens of ⅝ by 2 inch cedar, over this 8 oz. khaki will be spread and laced along each side.

It is to be hoped that Elcarujo will be the forerunner of a new kind of cruising motor boat. There is one thing certain and that is she will not be expensive to have built or to build. There are many items saved when the outboard motors are used for power, among these being: the shaft alley, fuel tanks, gasoline piping, long lines of exhaust piping, heavy motor beds, stuffing box, water connections, rudder with its various fittings, and oh, so much room! The vibration will be cut to a minimum. No time will be used for installing the motors and when the boat is put away for the winter the motors can be carried home and kept in a dry place.

As a service to readers who wish to build this boat, and might want larger copies of these drawings to a scale of ½ inch to the foot, arrangements have been made to supply blue prints at moderate cost. Write to the Editor of MoToR BoatinG, 119 West 40th Street, New York, N. Y., for particulars of cost, and how to secure prints.

Nymph A 10 Foot Sailing Dinghy

(*Continued from page* 48)

and the breast hook will be made of ⅞ inch apple wood or any other natural crooked stuff. Apple is easy to get and is as good as any wood for this purpose. A great deal of importance is laid on the fitting of these little knees by most folks; however, there are many skiffs that are years and years old and there is no sign of a knee in their construction. Of course these knees look well and do add to the stiffness of the boat; they are not vital, though.

The row lock pads will be made of white oak and riveted through the sides. If shaped as shown these will be effective and will stay put. Use the plainest kind of galvanized iron row locks with sockets having two holes in the top and two in the lip that comes inside the planking. The center of the row lock should be 9 inches abaft the aft edge of the seats.

We are coming to the end of the building now excepting for the making of the centerboard, the board and the spars. The trunk will be made of white cedar, the sides being ⅝ inches thick, and in one piece. The head pieces will be ⅞ by 1½ inch oak. The trunk can be made out of the boat and fitted to the inside of the bottom. The slot will be cut first through the keel and bottom planks. Set the thing in marine glue and fasten from the outside in with 3 inch number 12 brass screws, five on each side.

The board is simply a piece of ⅝ inch cedar 11 inches wide and 30 inches long. At top and bottom it is strengthened with a light cleat as shown, the ends should be rounded but not sharpened.

The mast and boom should be made to the dimensions shown on the sail plan. Either spruce or fir can be used for making these. The jaws on the boom must be made of oak for otherwise they will not have sufficient strength to stand up. Make the sail of 6 oz. khaki because this does not easily soil and is not expensive.

As a service to readers who might want larger copies of the drawings for Nymph to a scale of 1½ inches to the foot, arrangements have been made to supply blue prints at moderate cost. Write to the Editor of MoToR BoatinG, 119 West 40th Street, New York, N. Y. for particulars of cost, and how to secure prints.

Advertising Index will be found on page 128.

The Johnson Motor takes you to distant picnic spots or fishing grounds quickly and without effort. Its exclusive universal steering and reversing feature enables you to handle the boat with incomparable ease and quickness. The illustration shows a loaded boat backing away from the shore—no need to "shove off."

The Gift of all-outdoors—of Health and Happiness for You and Yours—

a Johnson Motor is simply that

IT is a gift that you can depend on to delight every member of the family. And during six months of each year for many years to come it will be a constant reminder of Christmas, 1924.

For the Johnson Motor brings pleasure to thousands of folks who love the water and the out-of-doors. It provides dependable water transportation and the finest sport in the world for summer cottagers, fishermen, campers and all people who live within fifty miles or more of rivers, lakes or the sea.

You don't have to live at the water's edge to enjoy your Johnson Motor, for despite its unusual power it is so light and compact that it can be carried on the running board of your car, or packed in a carrying case that fits under a Pullman berth if you're traveling by train.

Then, when you get to the lake, just rent a boat, put the Johnson Motor on (it takes but a few seconds) and you have the most practical motor boat you could wish for.

Its weight, complete, is

Only 35 Pounds

The Johnson is the only motor that fits all types of rowboats and canoes without altering any of them. It drives rowboats from 7 to 9 miles per hour and canoes from 10 to 12.

Its true portability and the remarkable engineering features that have produced its hitherto unapproached performance have made it, in 4 years, the biggest selling outboard motor in the world.

Let the Johnson Dealer give you a free demonstration. If you don't know him, we will send you his name and the beautiful Johnson Motor Catalog.

The exclusive Automatic Tilting feature makes the Johnson Motor slide over underwater obstructions without damage to motor or boat—and without danger to the passengers.

JOHNSON MOTOR COMPANY
860 Sample Street, South Bend, Ind.
Eastern Distributor and Export: New York Johnson Motor Co., Inc.
4 West 61st Street, New York City, N. Y.
Canadian Distributor: Peterborough Canoe Company
Peterborough, Ontario

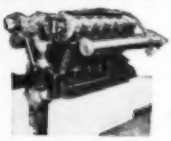
Johnson
OUTBOARD MOTORS
GET INTO THE BOAT AND SEE FOR YOURSELF

"New Jersey"
Marine Paints & Varnishes
Copper Paint
Yacht White
Ship & Deck Paint
Spar Varnish
Copper Bronze

Show Announcement
You are cordially invited to visit our booth at the Annual
MOTOR BOAT SHOW
January 2d to 10th, 1925
At
Grand Central Palace,
New York City

NEW JERSEY PAINT WORKS HARRY LOUDERBOUGH, INC.
JERSEY CITY. NEW JERSEY. U. S. A.

COPPER EXHAUST MANIFOLDS
Water Jacketed
for Liberty and
OX5 Curtiss
Motors



Heavy gauge seamless cold drawn pure copper tubing, welded at joint (not brazed), with fittings and flanges of Manganese Bronze. Practically a solid piece of copper, will outlast the motor. Ample water space insures uniform cooling. Absolutely unaffected by salt water. Finished in copper or nickel plate.

We have Liberty and Curtiss Manifolds made up. Intake or exhaust manifolds for other motors built to your specifications or drawings. We are equipped to produce special copper work of any kind, COPPER TANKS, any size or shape.

Write today for prices or estimates.

MIAMI COPPER CO. *MIAMI, FLA.*

MULLINS STEEL BOATS
Standard for 30 years

For fishing, hunting and pleasure, Mullins Steel Boats are the most economical of all boats. We guarantee them against leaking, waterlogging, drying out, opening seams and calking. Built of puncture proof steel and equipped with air-tight compartments. Can't sink. Supreme in service and satisfaction.

Write for Catalog

MULLINS BODY CORPORATION
Boat Department 820 Depot Street Salem, Ohio

Why the Diesel Yacht is Best

(*Continued from page 39*)

engines, boilers, fuel, etc., of 47-feet 3 inches, while with an equally powerful internal combustion engine, this fore and aft length will measure only 36 feet 9 inches, a clear gain of 10 feet 6 inches in the central, widest, and most desirable part of the vessel. Further, since the fuel consumption of a first class steam installation, using oil fuel, is 2½ times that of the internal combustion engine, of the Diesel type, provision would have to be made for 75 additional tons of fuel oil. This would increase the displacement, causing a reduction in speed under the same power, or requiring more power for the same speed.

The internal combustion engine of the Diesel type is beyond the experimental stage, several million horse-power being in use on land, while the submarines of the principal naval powers aggregate over one million horse-power of Diesel type engines. While the first cost of a Diesel engine installation is considerably higher, this is easily offset by the saving in fuel, the lesser space required, the smaller crew, etc.

Since this craft is designed for a maximum speed of 16½ miles, requiring 1,200 s.h.p. it is proposed to use a pair of New London Ship & Engine Company Diesel engines, which have an overall length of 22 feet, weighing 49,220 pounds, with eight working cylinders, and two compressors. These will develop 500 s.h.p. at 295 r.p.m., and 600 s.h.p. at 340 r.p.m.

Auxiliary machinery of suitable capacity is necessary, and for the electric lighting plant consists of two generating sets of 20 k.w. capacity, which will operate all lights, boat hoists, windlasses, and other deck machinery. An Edison storage battery of large capacity will be required.

Based on a displacement of 495 tons when fully loaded and with 66.7 gross tons, 20,000 gallons of oil fuel on board, we have calculated the data as follows:

Speed m.p.h.	*Horse Power*	*Fuel per Hour*	*Cruising Radius in Miles*
11.5	290	20.5 gals.	11,330
12.7	402	28.1	9,003
13.8	562	39.3	7,023
15.0	797	55.7	5,368
16.1	1116	78.1	4,123
16.5	1250	87.5	3,777

The fuel consumption and cruising radii are based on a consumption of 0.50 pounds per shaft horse-power-hour.

A Villa of the Sea

(*Continued from page 27*)

at maximum speed. The fuel consumption only amounts to 3.44 gallons per hour, or practically three miles per gallon.

The Great Lakes Seavilla, which is in every sense a highly specialized and standardized cruiser to be built in quantity, will be regularly powered with the Kermath Model 35 marine engine of the medium duty type. This cruiser drives easily at ten miles an hour with this power without any stress on the engine. This cruising speed can easily be maintained all day long.

This new cruiser amply demonstrates the ability of present-day pleasure boat builders to produce a cruiser which will satisfy not only the old hands but will introduce new blood into the game.

Goodwill, an Offshore Diesel Schooner

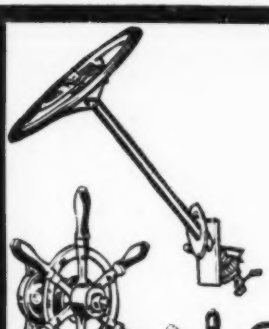
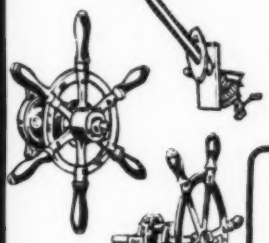
(*Continued from page 36*)

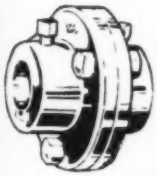
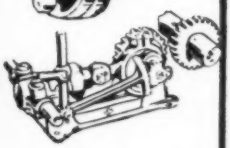
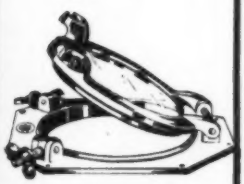
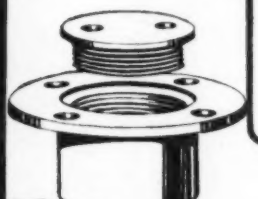
equipment includes two 7½ k.w. Winton generators in addition to an Edison battery plant of double the usual capacity. An electric yacht windless built by the American Engineering Company handles the anchor, while electric winches are fitted for hoisting and trimming sails.

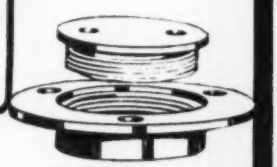
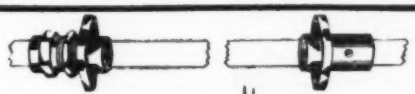
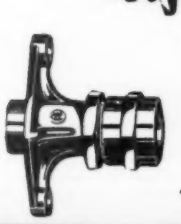
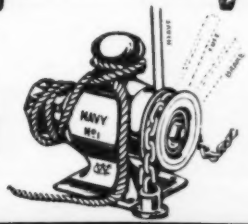
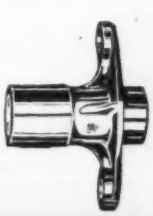
Electric Marine Committee

The Marine Committee of the American Institute of Electrical Engineers recently held a meeting at the Institute building, and reports were received to show the valuable service rendered to the Navy and the Merchant Marine in the compilation of the book, Recommended Practice for Electrical Installations on Shipboard, Marine Rules. An effort has been made by the Committee to keep these rules up to date at all times, and they have been received with interest by engineers throughout the shipyards and merchant marine of the country. The Committee treats with marine electrical problems from main propulsion to signaling and communication, as well as lighting and power. L. C. Brooks of the Bethlehem Shipbuilding Corporation is Chairman, and J. S. Jones, Vice President of Chas. Cory & Son, Inc., is Secretary of this Committee.

Advertising Index will be found on page 138.

WC AUTO-BOAT STEERERS

One of the 1,001 WC Products

Low Priced Auto Steerers

The Models M and O shown here are made to meet the demand for a first class, low priced steerer. The column is made of strong brass tubing. This brass tubing is fastened to the drum as shown in the cuts and turns with the wheel. Both models are equipped with Spark and Throttle Controls placed inside the wheel in the usual manner. Workmanship and finish are in strict keeping with the WC standard of excellence.

Higher Priced Steerers

We also make a higher grade and more expensive line of Auto and Bridge Deck Steerer. Strength and correct mechanical construction, taught by 75 years' experience in the manufacture of Marine Hardware, mark this WC line of Auto-boat and Bridge Deck Steerers.

A heavy brass steering post operates inside the steering column, and the pinion or drum is firmly keyed to this post between an upper and lower bearing. This divides the strain and makes for ease in steering.

WC Steerers are equipped with smooth friction Spark and Throttle Controls placed conveniently inside the wheel. All metal parts are of brass with exposed parts highly polished. The wheel rims are of laminated maple stained mahogany.

Grooved Drum and Horn Buttons

If desired, WC Steerers can be had with a special grooved drum to prevent the tiller rope over-riding. Models A, B and C are also equipped with horn buttons when specified. Descriptive circular will be sent on request.

Ask your dealer for WC Hardware

Get This Book of Helpful Hints for Motor Boaters

"Sea Craft Suggestions and Supplies" solves those daily "Puzzlers" that few know how to handle. Tells how to Box the Compass; what is Proper Ground Tackle; gives hints on Steering Gear, etc.; describes WC Dependable Marine Hardware; tells uses. Compiled from 75 years' experience in making marine fittings. Sent prepaid for 50c.

Wilcox, Crittenden & Co., Inc.

(Established 1847)

4 South Main St., Middletown, Conn.

MOTOR BOATING

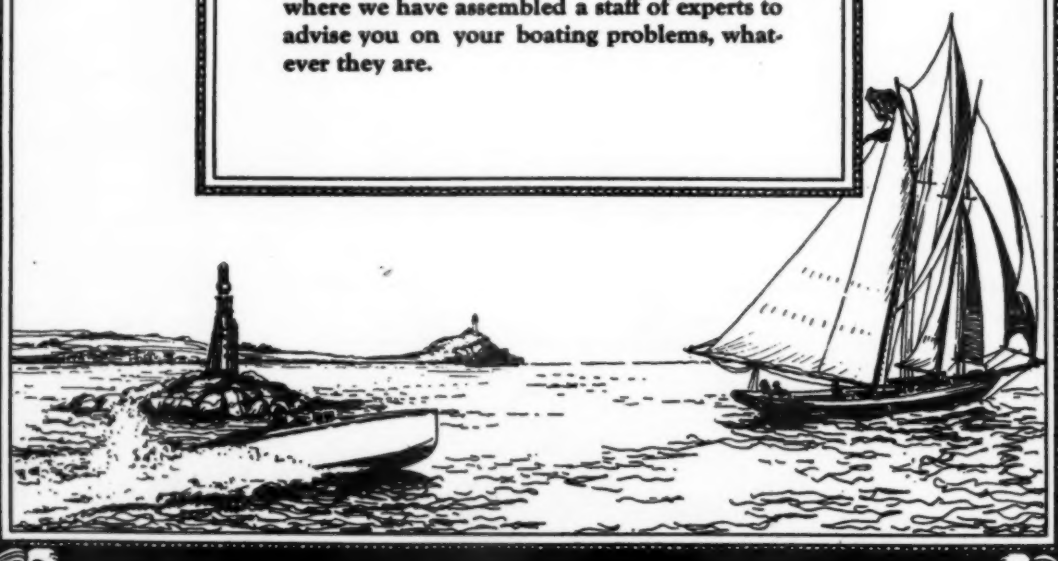
earnestly suggests to boatmen everywhere that they make a special effort to visit the Motor Boat Show of 1925. It's going to be a great Show—the biggest ever—with more boats, more engines, more interest than any Show of the past.

GRAND CENTRAL PALACE
NEW YORK

January 2nd to 10th

Come to New York and see for yourself the many new things the boat builders and marine manufacturers have prepared for you. Nowhere else can you see and compare the various products that have made boating the supreme sport it is today.

And while you are here we cordially invite you to stop at the MoToR BoatinG exhibit, where we have assembled a staff of experts to advise you on your boating problems, whatever they are.



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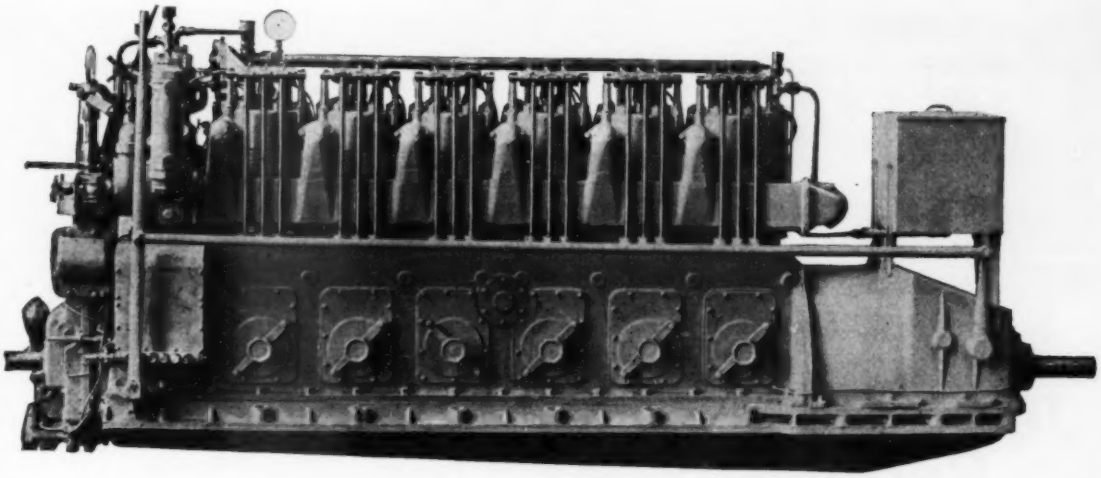


The Latest Winton---*A Small Diesel*

THE latest Winton Engine, Model 105, is a small-size Full Diesel, 100 H.P., designed either for direct or electric drive. This new Winton Engine now makes possible the installation of a Diesel Type power plant in small-size and medium-size yachts. If you own a boat in either of these classes, you may now enjoy all the advantages of the most efficient type of marine propulsion. Economical, reliable, clean, quiet and smooth in performance, the Winton Model 105 is a decided step in advance of any other power plant of equal power. Details supplied upon request.

WINTON ENGINE WORKS, Cleveland, Ohio, U. S. A.

New York: A. G. Griese, Inc., 30 Church St.
Los Angeles: F. G. Bryant, 201 F. W. Braun Bldg.
Boston: Walter H. Moreton Corporation, 780 Commonwealth Ave.
New Orleans, La.: A. Baldwin Company.
Seattle: H. W. Starrett, Sunset Engine Company.
Washington: R. L. Fryer, 430 Transportation Bldg.

Winton

OIL DIESEL TYPE ENGINES

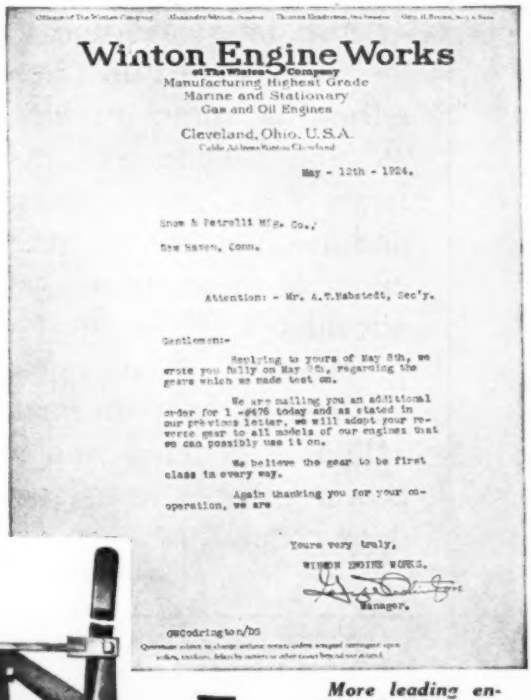
Why they "put it up to old man Joe"

Joes Gear Goes Coast Guard Requirements One Better

Reverse gears for the new Coast Guard engines (200 HP at 1200 RPM) must reverse at 100 brake HP for 15 minutes. JOES HUSKY GEAR, in the Winton Test, *reversed continuously for 20 minutes at* 754 RPM transmitting 102 *brake HP* without undue heating or wear.

SALES AND SERVICE

Boston, Mass.—Gray-Aldrich Co., Inc. 6 Commercial Wharf
New York—Sutter Bros., 44 Third Ave., Service Station foot E. 92nd St., Brooklyn
Clayton, N. Y.—St. Lawrence River Motor & Machine Co.
Rochester, N. Y.—Volney E. Lacy, Charlotte Station
Philadelphia, Pa.—W. E. Gochenaur Mfg. Co., 631 Arch Street
Baltimore, Md.—Unger & Mahon, Inc., Pratt and Gay Streets
Detroit, Mich.—Henry H. Smith & Co., 334 Jefferson Ave., East
Cleveland, Ohio—Wm. F. Meier, 1220 Warren Road, Lakewood
St. Louis, Mo.—William Gossmann Boat & Motor Co., 1630 Pine St.
Chicago, Ill.—W. L. Masters & Co., 800 N. Clark St.
New Orleans, La.—Arthur Duvic's Sons, 130 Chartres St.
Southern California—Fellows & Stewart, Inc., Wilmington
Seattle, Wash.—Pacific Marine Engine Co.
Portland, Ore.—Oregon Marine Fisheries & Supply Co. 105 First Street
Southern Alabama and N. W. Florida—Marine Supply Co., Mobile, Ala.
Canada—All Branches—Canadian Fairbanks-Morse Co.
Newfoundland—John Baron & Co., 241 Water St., St. Johns
New Brunswick, P. E. I.—T. McAvity & Son, St. Johns, N. B.
England—J. King & Co. 10 Church Row, Limehouse, E. London
Argentine, S. A.—J. Banham & Sons, Buenos Aires
Victoria, Australia, Melbourne—Acme Cycle Co.
Japan and Australia—Melchior, Armstrong, Dessau Co., 116 Broad St., New York, U. S. A.



Winton Engine Works
of The Winton Company
Manufacturing Highest Grade
Marine and Stationary
Gas and Oil Engines
Cleveland, Ohio, U.S.A.
Cable Address Winton Cleveland

May - 12th - 1924.

Snow & Petrelli Mfg. Co.,
New Haven, Conn.

Attention: - Mr. A.T.Wabstedt, Sec'y.

Gentlemen:-

Replying to yours of May 8th, we wrote you fully on May 9th, regarding the gears which we made test on.

We are mailing you an additional order for 1 -#476 today and as stated in our previous letter, we will adopt your reverse gear to all models of our engines that we can possibly use it on.

We believe the gear to be first class in every way.

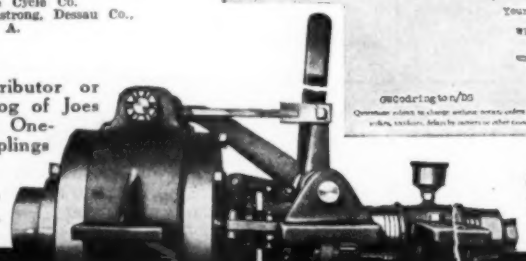
Again thanking you for your co-operation, we are

Yours very truly,
WINTON ENGINE WORKS.
Manager.

GWCodrington/DS

See the nearest Joes Distributor or write us for a complete catalog of Joes Gears, Safety Rear Starters, One-Way Clutches and Flange Couplings

The Snow & Petrelli Mfg. Co.,
154 Brewery St., New Haven, Conn.



More leading engine builders use Joes Gears as standard equipment than any other make.

JOES FAMOUS REVERSE GEARS

REVERSE 80%~88% of MOTOR SPEED

Advertising Index will be found on page 133.

More Motor for Your Money

MORE real engine—more zip and life—more speed — more flexibility — more quietness and smoothness — more of everything that the experienced buyer wants in an outboard motor is built into the Evinrude Sport Twin. It caps fifteen years of outboard motor development.

"Other Motors are Not Evinrudes"

Only the genuine Evinrude has the exclusive features described in this advertisement. They make the Sport Twin the handiest and most complete motor ever clamped to a boat. They are coupled with lightness, beauty, and the durability that has made the Evinrude famous all over the world.

Examine a Sport Twin at your dealer's today.
Mail the coupon for illustrated Catalog.

EVINRUDE MOTOR COMPANY
203 Evinrude Building, Milwaukee, Wisconsin
Distributors:
115 East 23rd St., New York, N.Y. — 119 Broadway, Oakland, Calif.
259 Atlantic Ave., Boston, Mass. — 211 Morrison St., Portland, Ore.

Evinrude Features

New Flywheel Magneto

Super-powered—assures instant starting and amazing performance. Moisture-proof. Eliminates heavy, uncertain batteries.

New Auto-Type Carburetor

Float feed design—an exclusive Evinrude-Zenith model. Has adjustable needle valve. Throttles and accelerates quickly and evenly. Saves "gas".

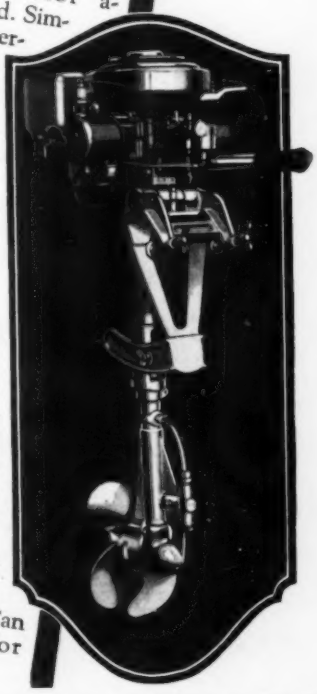
New Safety Reverse

—automatic—at a lift of the tiller. Reverses drive instantly, without swinging motor around. Simple, certain and absolutely safe. No other like it.

New Safety Tilt-Up

Motor cannot be injured by snags, shallows, or beaching (you can pull the boat right up on the dock). Can be locked for starting.

Sport Twin also made with bronze underwater parts, preferred by some for salt water use.



EVINRUDE

(THE ORIGINAL)

EVINRUDE MOTOR CO.
203 Evinrude Bldg., Milwaukee
Send me details of your 1924 Dealer Proposition, without obligation.
Name _____
Address _____
City _____

You Wouldn't Do This!

Not Much!

Have you seen a recent issue of the Main Sheet? Isn't it unusual that a club publication, even if it is the far famed Detroit Yacht Club, can have such an intense reader appeal and carry so much high grade advertising?

Not at All

When you stop to think that its 12,000 readers come from a very marked group of people who have recently, or are now developing an enthusiastic interest in power boating you can readily understand where you come into the picture in this untouched buying field.

Yes! Sir!

The really remarkable thing is that more national marine advertisers haven't snapped out of the fog to reach all these logical buyers in Detroit and its vicinity in a direct appeal without buying a lot of waste circulation.

Isn't it Logical?

The Main Sheet

W. D. EDENBURN, *Editor*
3101 WOODWARD AVENUE, DETROIT

Issued the 1st of every month.
Forms close 15th of month preceding date of issue

New Diesel Yacht Going South

(*Continued from page* 40)

for the extra men in the guest list. Aft there will be four double staterooms, with the owner's rooms in the extreme stern. There will be a total of eleven separate beds in the several staterooms of the owner's quarters. The deck house has been arranged to accommodate the dining saloon, galley, etc., while the after end is used as a lounge with a sheltered seat at the after end. This boat will be the largest Diesel yacht on the Great Lakes, and will sail under the colors of the Detroit Yacht Club.

Diesel Engines for Hard Work

(*Continued from page* 86)

points on the cylinder walls, assuring a clean lubricant on the cylinder walls at all times.

The great demand on the Standard Company for these engines has forced them into the building of both marine and stationary and ship's auxiliary units.

One of the first installations is that in the tug H. S. Hennen, owned by Captain J. J. Hennen of Evansville, Indiana, who writes he is more than pleased with the successful operation of his boat, and that "My engine runs beautifully and my boat running light is the fastest ton boat here and the engine runs with a clear exhaust and the engine is a wonderful piece of machinery." The arrangement of H. S. Hennen shows a wonderful type of tow boat which is built for shallow draft work on the Ohio River. She is most complete, with ample accommodations for crew, is equipped with towing engine, and every model feature for a tow boat. The second day after the engine was installed the boat made a trip to Louisville, Ky., making its first tow through to Evansville, a distance of about 200 miles. The saving in fuel, oil, and lubricant over the previous surface ignition engine installed in this boat, it is estimated by Captain Hennen will pay for his engine in a very short period of time.

Yard & Shop

(*Continued from page* 54)

for the first time at the coming Motor Boat Show next month. This boat has been primarily arranged for comfort with a smooth running hull and machinery. The draft is 3 feet which is boat draft and not skag draft, while the lines are such as to guarantee maximum seaworthiness on these proportions. The accommodations will take care of a party of six, of which four will be able to sleep in the main cabin and two in the stateroom. Both rooms have access to the deck so that it will not be necessary to disturb either group. Full size meals may be prepared in the convenient galley, while the 14 by 8 foot cockpit gives plenty of outdoor space. The engine is entirely below the flush cockpit floor, and consists of a 1925 model, four cylinder, 5 by 7 inch Peerless engine, which puts this boat in the ten knot class.

Kermaths Do Not Wear Out

Some very interesting data has been received from an engineering point of view by the Kermath Manufacturing Company. A user of a 1911 model, 12-16 h.p. Kermath engine, has taken his machine down after ten years of continuous seasonal operation. During this time the upkeep costs have been practically nothing, while the motor has been subjected to the strain of continuous running for periods up to six hours without a stop, and all day runs with 40 to 50 starts and stops. Walter B. Cole of Ottawa, Canada, the owner of this interesting machine, has made a careful micrometric measurement of the wearing services which are tabulated and reproduced in the cut on page 52. These measurements have been checked by a disinterested engineer, and found correct. The boat in which this machine is installed has done at least 25,000 miles, without a breakdown or a major repair. For cruising, a 16 by 20 inch Hyde propeller is fitted which drives the boat up to 16 miles at 1,100 revolutions, while for racing a 15 by 20 inch Hyde wheel, turning at 1,300 revolutions drives the boat up to 18 miles per hour.

ZR-3 Motor on Display

The United States Navy's new Zeppelin is fitted with 450 h.p. Maybach engines, of which five are used. The manufacturers of these engines actually built six, and the extra one has been exhibited in New York display rooms. In addition to this very powerful engine, a marine unit of 65 h.p. is also shown, and yachtsmen who have seen it are enthusiastic over its appearance.

(*Continued on page* 136)

Advertising Index will be found on page 138.

J.E.B.

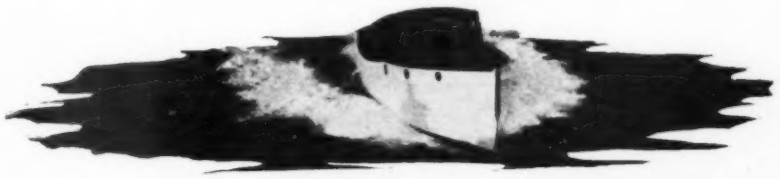
GENUINE SEA SKIFFS

The Banfield 30 foot Fishing Skiff

50 H. P. Kermath, 12 M. P. H. Price $3700.
185 H. P. Sterling, 24 M. P. H. Price $5900

A BEAUTIFUL combination of seaworthiness, speed and comfort, for deep sea fishing and cruising. Our 20 years experience building sea skiffs exclusively assures an owner of a genuine sea skiff that has been tried out under all conditions. Ask one of the thousand owners of Banfield's sea skiffs. You will find them in all parts of the world. Banfield's sea skiffs will be exhibited at the coming New York Motor Boat Show, January 2 to 10, 1925.

BANFIELD SEA SKIFF WORKS
ATLANTIC HIGHLANDS, N. J.



Gypsey Type for Rope or Cable

Wildcat Type for Chain

A-E-CO Motorboat Windlass

This little electric machine weighs anchor, hoists sail or small boats and handles warping lines for you. You just step on the button and the windlass does the rest. It runs on storage batteries or the smallest generator and consumes very little power. It is small, light, compact and easy to install. It is attractive in appearance. And it costs no more than the average hand hoist—any boat owner can afford it!

The new folder gives prices, descriptions and illustrations of the A-E-CO Motorboat Windlass. Write for a copy today!

American Engineering Company

2419 Aramingo Ave., Philadelphia, Pa.

MARINE HARDWARE

at

Money Saving Prices

Life Preservers Pillows - -	1.00
Comb Lamp Class 1 - - - -	2.10
Stern Light - - - - - -	1.50
Brass Bilge Pumps - - - - -	2.10
Galv 12" Steering Wheel - -	1.40

Complete Catalog with Money Saving Prices Free Upon Request

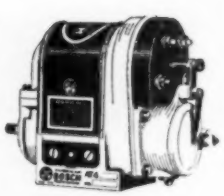
ATLANTIC SUPPLY CO.

ATLANTIC HIGHLANDS, N. J.

BOSCH

Trade Mark

This trade mark on a starting, lighting or ignition unit or part stamps it as a genuine Bosch Product — backed by the Bosch guarantee of dependable service.



American Bosch Magneto Corporation
Springfield, Mass., U. S. A.

Yard & Shop

(*Continued from page* 134)

H. G. Burton Takes Over Master Gear

H. G. Burton, formerly with Cady of Canastota, has acquired the Master Gear Company at Lockport, N. Y. He is planning some increased production on these reverse gears which are now being used by several engine builders as standard equipment on their machines. They are used by Cady, Buffalo, and others. They are inexpensive in cost, and in service have proven their worth, and give the user very little trouble.

Cape Cod's Show Room

A new building has been erected by the Cape Cod Shipbuilding Corporation on their grounds at Wareham, Mass., which will be used as a permanent boat show room for their varied assortment of boats. The building has been attractively finished, so that the display of boats will be made to the best advantage. The location of the room is such, that it can be seen from the electric car line, the railroad, and the main highway to the Cape. It has attracted considerable attention, and prospective purchasers are dropping in at all times.
insures a substantial job when installed.

Evinrude Wins Honors At Singapore

Running off with the first three places in each of the two days' races held recently at Johore, Straits Settlements, the Evinrude Outboard Motor insured itself with added prestige abroad, as well as at home.

The Outboard Motor races, with a silver shield and cash as prizes, were part of a program of land and sea sports held at Johore in honor of the Sultan's fifty-first birthday, and under the auspices of the Johore Sports Club.

In a letter to the Evinrude Company, W. H. Martin & Co., agents, wrote in part:

"There were two days of racing. . . . On the first day's race all three winners were Evinrudes. The first and third places being won by the 2 h.p. Single Cylinder Motors, while the second prize was won by Tan Hock Ann with a 4 h.p.

"On the second day's race the course was increased making the run about 20 miles. At the very beginning the Evinrude Motors took the lead, leaving behind them in a short space of time the other makes.

"A pouring rain made the going pretty heavy, and nothing could be seen of the boats beyond 300 yards or so. As they sped past the finish post, however, it was evident that Mr. Hock Ann's Big Twin was an easy winner by about 300 yards. The second and third to come in were a Malay hirer's 2 h.p. and A. E. Newton's Big Twin, respectively."

The Evinrude Motor was awarded the silver shield emblematic of the winning make of outboard motor in the races.

Power Bilge Pump

One of the most essential items of equipment on all boats is a bilge pump and when this is of the power driven type, its usefulness is unlimited. The American Machine and Foundry Company of Brooklyn have developed a pump in a one inch size, which can be directly driven by means of a small independent gasoline engine or an electric motor. This pump has a capacity of fifteen gallons per minute, and when turning at about 1,725 revolutions will consume about one-half horsepower. The pump is a new form of rotary, entirely constructed of bronze and is not affected by salt water or other liquids which do not attack bronze. The pump and equipment can be supplied in larger sizes to suit any requirement, but the customary size is the one inch pump fitted to the electric or gasoline engine.

A New Combination

Word has just been received that the formation of the firm, Hacker and Fermann, Inc., at 6304 E. Jefferson Ave., Detroit. John L. Hacker has for many years been known and recognized as one of the leading architects and boat builders in the industry. Mr. Fermann has also had an equally long and extensive experience at practical building, and designing. For thirteen years he was with the Matthews Boat Company of Port Trenton, Ohio, working on high class yachts of all kinds. Since both the incorporators of the new company are practical boat builders, it assures their ability to undertake the design and proper supervision of the construction of all classes of yacht work. Their facilities at the present time are adequate to handle all types of boats up to 150 feet in length in both wood and steel construction. It is also intended to conduct a brokerage department which will be the first class office of this type in Detroit. The addition of facilities, such as these, to the Central West, will be of great value and convenience to the yachtsmen there.

Advertising Index will be found on page 138.

Eveready Heavy Duty "B" Battery, 45 volts. Three Fahnestock clips. Length, 8 3/16 inches; width, 4 7/16 inches; height, 7 3/16 inches; weight, 13 3/4 pounds. Price $4.75.

No 770
EVEREADY
RADIO
"B" BATTERY
30 CELLS 45 VOLTS
This heavy duty 45 volt "B" Battery is especially designed to give longer service under heavy drain, and is particularly adapted for use with multi-tube sets, operating at 90 volts or more.
NATIONAL CARBON CO. Inc.
NEW YORK SAN FRANCISCO
MADE IN U.S.A.
EVEREADY

Dry "B" Batteries are more economical and more dependable than any other source of plate current!

REDUCE Operating Costs

THOUSANDS of people are already cutting their "B" Battery costs one-half, or even two-thirds, by using the new Eveready "B" Battery No. 770 on their heavy drain sets.

This new Eveready Heavy Duty Battery marks a marvelous advance in reducing "B" Battery costs.

If your "B" Batteries have lasted only two months on a five or six tube receiver, this Eveready Heavy Duty "B" Battery will increase the service two to three times.

Use this Eveready Heavy Duty "B" Battery on any receiving set on which the "B" Batteries last less than four months. When thus used to its full capacity, it is the cheapest as well as the best source of "B" energy ever offered.

Manufactured and guaranteed by
NATIONAL CARBON COMPANY, INC.
Headquarters for Radio Battery Information
New York San Francisco
Canadian National Carbon Co., Limited, Toronto, Ontario

EVEREADY
Radio Batteries
–they last longer

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Do you know the facts about the Annual Show Number of MoToR BoatinG (our regular January issue)?

MoToR BoatinG's annual Show Number is a fixed institution, noted for its great size and completeness, a veritable show in itself.

You can have a permanent exhibit in its pages at a very low cost and bring your product to the attention of every naval architect, boat builder, marine engine manufacturer, marine supply house and dealer in addition to reaching the largest number of boat owners and enthusiasts ever reached through any publication devoted to this field.

Write for the facts today.

MoToR BoatinG,
119 W. 40th Street, New York City

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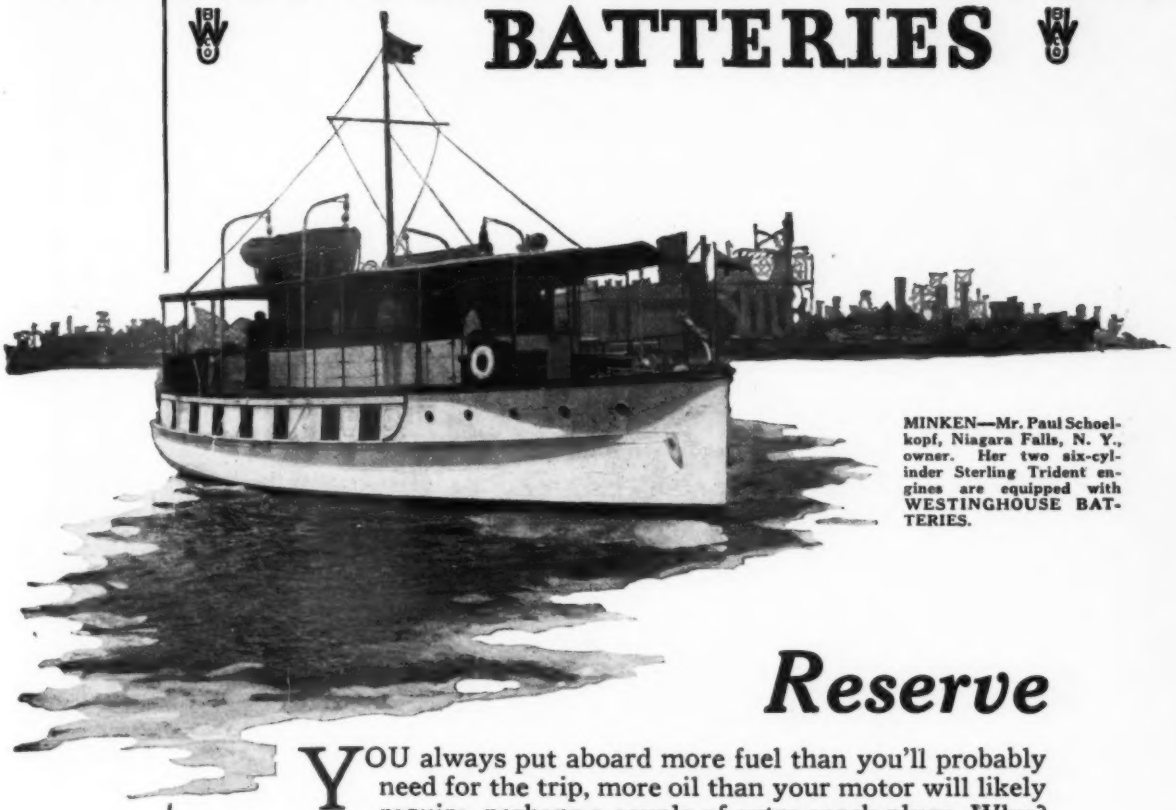
WESTINGHOUSE BATTERIES



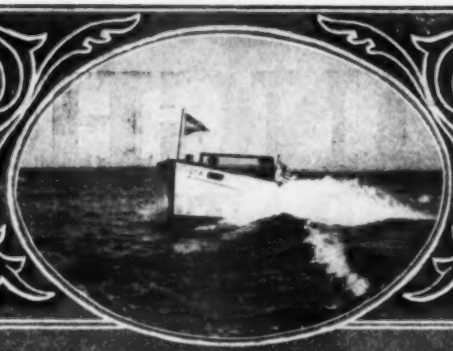
MINKEN—Mr. Paul Schoelkopf, Niagara Falls, N. Y., owner. Her two six-cylinder Sterling Trident engines are equipped with WESTINGHOUSE BATTERIES.

Reserve

YOU always put aboard more fuel than you'll probably need for the trip, more oil than your motor will likely require, perhaps a couple of extra spark-plugs. Why? For your peace of mind—for the reassurance they carry of bringing you back to port. Why not a reserve supply of vital starting, lighting and ignition current?

Westinghouse Standard Batteries are OVERSIZE. They have more plate area—more current capacity than ordinary batteries of like dimensions. This and their rugged construction, their leak-proof and shock-absorbing post gaskets, their durable wood separators, make Westinghouse Standard Batteries outstandingly dependable—the logical batteries for marine use. There's a Westinghouse Battery for every size of motor-driven boat.

WESTINGHOUSE UNION BATTERY CO., Swissvale, Pa.



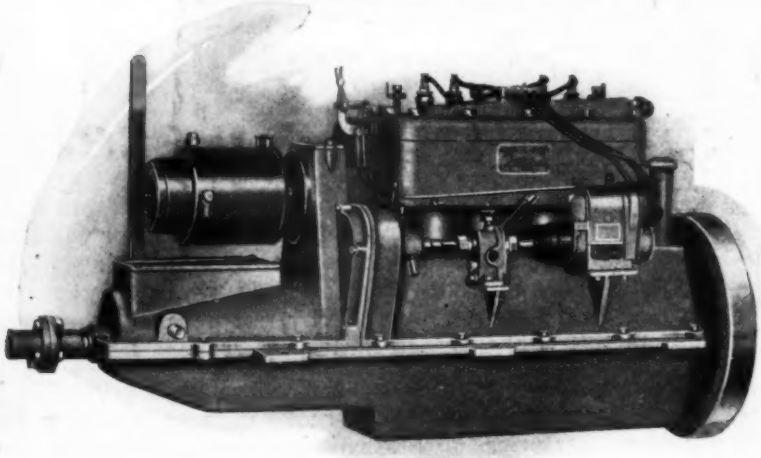
FAY & BOWEN

Twenty-Five Years of Leadership

Based on True Worth and Service Rendered

Fay & Bowen Marine Engines and Power Boats

Are notable for their Correct Design, Sound Engineering, Precise Craftmanship and Wonderful Ability



The new Fay & Bowen Model LC-41 27 H.P. marine engine *is a wonderful combination. Simplicity in design, dependable in performance, enduring in service and economy in operation. The answer is sound value.*

Write for boat or engine bulletins, mentioning the size and type in which you are interested

Fay & Bowen Engine Co.

104 Lake Street, Geneva, New York

EASTERN REPRESENTATIVES:

New York:
44 Third Ave., at 10th St.
Sutter Bros.

Boston:
6 Commercial Wharf
Gray-Aldrich Co.

Philadelphia:
116 Walnut Street
Marine Equipment & Supply Co.

RELIABILITY F&B

Advertising Index will be found on page 138.

August days are coolest for the yachtsman and are twice as enjoyable when his boat is equipped with a Sterling engine.

Smooth Quiet Dependable

Models incorporate counter-balanced crankshaft, dual valves, detachable cylinder heads. Engines from 12 to 300 H.P. High speed and slow turning.

Suitable for every type of boat.

STERLING ENGINE COMPANY 1254 Niagara St., Buffalo, N. Y.

CONSOLIDATED

Designers and builders of fine pleasure craft

The special feature of this design is its two cockpits.

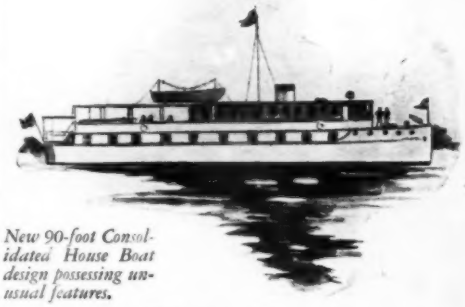
Runabouts

Fast, seaworthy and shallow draft, for day sailing, cruising and fishing.

Florida Play Boats

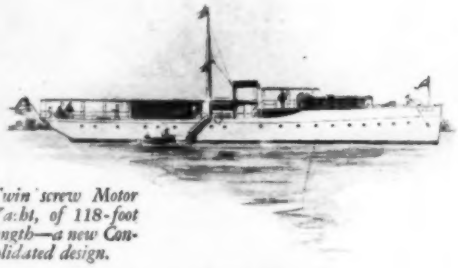
A 62-foot Consolidated Day Cruiser with excellent cabin arrangement.

Day Cruisers



New 90-foot Consolidated House Boat design possessing unusual features.

House Boats



Twin screw Motor Yacht, of 118-foot length—a new Consolidated design.

Steel Yachts

All year service, long cruising radius and luxurious appointments are combined in these boats.

North and South Cruisers

Interested parties are invited to visit the Consolidated Showrooms, located only a few minutes from Grand Central Station, New York City. Descriptive literature on any of the above boats sent on request.

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MORRIS HEIGHTS — **NEW YORK CITY**